

FCC TEST REPORT

(Part 15, Subpart C)

Applicant:	Verbatim Americas, LLC.
Address:	8210 University Executive Park Drive, Suite 300 Charlotte, NC 28262, USA

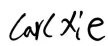
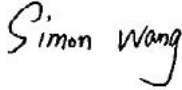
Manufacturer or Supplier:	Verbatim Americas, LLC.
Address:	8210 University Executive Park Drive, Suite 300 Charlotte, NC 28262, USA
Product:	Portable SSD
Brand Name:	Verbatim
Model Name:	31872 (series models 3****, *=0-9, representatives Standard/Biometrics/Keypad SKUs with different color and storage capacity)
FCC ID:	TL4-3187288-32301
Date of tests:	Dec. 20, 2025 ~ Apr. 01, 2026

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart C, Section 15.247**

☒ **ANSI C63.10-2020**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Carl Xie Engineer / Mobile Department	Approved by Simon Wang Manager / Mobile Department
	
Date: Apr. 01, 2026	Date: Apr. 01, 2026

BOOMWAVE TEST (SHENZHEN) CO., LTD. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of BOOMWAVE TEST (SHENZHEN) CO., LTD., the test report shall not be reproduced except in full.

TABLE OF CONTENTS

RELEASE CONTROL RECORD	4
1. SUMMARY OF TEST RESULTS.....	5
1.1 MEASUREMENT UNCERTAINTY	6
2 GENERAL INFORMATION	7
2.2 GENERAL DESCRIPTION OF EUT	7
2.3 DESCRIPTION OF TEST MODES	8
2.2.1 CONFIGURATION OF SYSTEM UNDER TEST	9
2.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL.....	9
2.4 DUTY CYCLE OF TEST SIGNAL	11
2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS	11
2.6 DESCRIPTION OF SUPPORT UNITS	12
3 TEST TYPES AND RESULTS.....	13
3.1 CONDUCTED EMISSION MEASUREMENT	13
3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	13
3.1.2 TEST INSTRUMENTS.....	14
3.1.3 TEST PROCEDURES	15
3.1.4 TEST SETUP	15
3.1.5 DEVIATION FROM TEST STANDARD	15
3.1.6 EUT OPERATING CONDITIONS	16
3.1.7 TEST RESULTS	17
3.2 RADIATED EMISSION MEASUREMENT	19
3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT	19
3.2.2 TEST INSTRUMENTS.....	20
3.2.3 TEST PROCEDURES	21
3.2.4 DEVIATION FROM TEST STANDARD	21
3.2.5 TEST SETUP	22
3.2.6 EUT OPERATING CONDITIONS	23
3.2.7 TEST RESULTS	24
3.3 6 dB BANDWIDTH MEASUREMENT	46
3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT	46
3.3.2 TEST INSTRUMENTS.....	46
3.3.3 TEST PROCEDURE	47
3.3.4 DEVIATION FROM TEST STANDARD	48
3.3.5 TEST SETUP	48
3.3.6 EUT OPERATING CONDITIONS	48
3.3.7 TEST RESULTS	48

Test Report No.: RF260401B001

3.4	CONDUCTED OUTPUT POWER	49
3.4.1	LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT	49
3.4.2	TEST SETUP	49
3.4.3	TEST INSTRUMENTS.....	49
3.4.4	TEST PROCEDURES	49
3.4.5	DEVIATION FROM TEST STANDARD	49
3.4.6	EUT OPERATING CONDITIONS	49
3.4.7	TEST RESULTS	50
3.5	POWER SPECTRAL DENSITY MEASUREMENT	52
3.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	52
3.5.2	TEST SETUP	52
3.5.3	TEST INSTRUMENTS.....	52
3.5.4	TEST PROCEDURE.....	52
3.5.5	DEVIATION FROM TEST STANDARD	52
3.5.6	EUT OPERATING CONDITION	52
3.5.7	TEST RESULTS	53
3.6	OUT OF BAND EMISSION MEASUREMENT	54
3.6.1	LIMITS OF OUT OF BAND EMISSION MEASUREMENT	54
3.6.2	TEST SETUP	54
3.6.3	TEST INSTRUMENTS.....	54
3.6.4	TEST PROCEDURE.....	54
3.6.5	DEVIATION FROM TEST STANDARD	55
3.6.6	EUT OPERATING CONDITION	55
3.6.7	TEST RESULTS	55
3.7	ANTENNA REQUIREMENTS	56
3.7.1	STANDARD APPLICABLE	56
3.7.2	ANTENNA CONNECTED CONSTRUCTION	56
3.7.3	ANTENNA GAIN	56
4	PHOTOGRAPHS OF THE TEST CONFIGURATION	57
5	MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	
	58	
6	APPENDIX :BLE	59



Test Report No.: RF260401B001

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF260401B001	Original release	Apr. 01, 2026

1. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	TEST LAB*
15.207	AC Power Conducted Emission	Compliance	A
15.205 15.209	Radiated Emissions	Compliance	A
15.247(d)	Out of band Emission Measurement	Compliance	A
15.247(a)(2)	6dB bandwidth	Compliance	A
15.247(b)	Conducted Output power	Compliance	A
15.247(e)	Power Spectral Density	Compliance	A
15.203	Antenna Requirement	Compliance	A

Note : Except RSE and AC Power Conducted Emission, other data please refer to Appendix.

*Test Lab Information Reference

Lab A:

Boomwave Test (Shenzhen) Co., Ltd.

Lab Address:

Rm B38, Warehouse A5(Chiwan #1), #3 Chiwan 4th Rd, Chiwan Comm, Zhaoshang St, Nanshan Dist, Shenzhen, Guangdong, Shenzhen, China

Accredited Test Lab Cert 7607.01

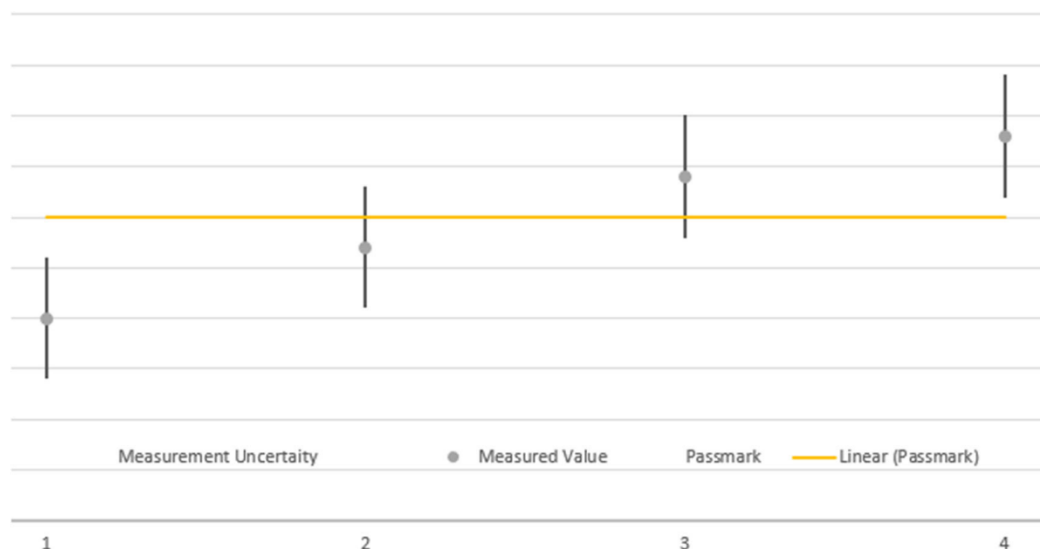
The FCC Site Registration No. is 646781; The Designation No. is CN1429.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
AC Power Conducted emissions	$\pm 2.70\text{dB}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions (1GHz ~6GHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GHz ~18GHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Conducted Output power	$\pm 2.06\text{dB}$
Power Spectral Density	$\pm 0.85\text{ dB}$

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.

2 GENERAL INFORMATION

2.2 GENERAL DESCRIPTION OF EUT

PRODUCT*	Portable SSD	
BRAND NAME*	Verbatim	
MODEL NAME*	31872(series models 3****, *=0-9,representatives Standard/Biometrics/Keypad SKUs with different color and storage capacity)	
NOMINAL VOLTAGE*	3 V	
MODULATION *	BLE	GFSK
TRANSMISSION RATE*	BT_LE: 1 Mbps/2 Mbps	
OPERATING FREQUENCY	2402-2480MHz for BT-LE(GFSK)	
MAX. OUTPUT POWER	BT-LE: 6.34mW (Maximum)	
ANTENNA GAIN*	☒ Provided by client	
	BLE	0.47dBi
ANTENNA TYPE*	BLE	Chip Antenna
HW VERSION*	7D2RESS1U31401B0H1	
SW VERSION*	230904814A08	
I/O PORTS*	Refer to user's manual	
CABLE SUPPLIED*	N/A	

NOTE:

- *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX/RX FUNCTION
BT_LE(1MHz)	1TX/1RX
BT_LE(2MHz)	1TX/1RX

- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
- Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.

2.3 DESCRIPTION OF TEST MODES

BT-LE							
CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

2.2.1 CONFIGURATION OF SYSTEM UNDER TEST

Please see section 4 photographs of the test configuration for reference.

2.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.
The worst case was found when positioned on Y axis for radiated emission. Following test modes were selected for the final test, and the final worst case is marked in boldface and recorded in the report:

EUT CONFIGURE MODE	APPLICABLE TO				MODE
	RE<1G	RE≥1G	PLC	APCM	
-	√	√	√	√	-

Where **RE<1G**: Radiated Emission below 1GHz

RE≥1G: Radiated Emission above 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery.

RADIATED EMISSION TEST (BELOW 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
BT-LE	0 to 39	19	GFSK	2

RADIATED EMISSION TEST (ABOVE 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
BT-LE	0 to 39	0,19, 39	GFSK	1.0
BT-LE	1 to 38	1,19, 38	GFSK	2.0

POWER LINE CONDUCTED EMISSION TEST

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
BT-LE	0 to 39	19	GFSK	1

BANDEDGE MEASUREMENT:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
BT-LE	0 to 39	0, 39	GFSK	1.0
BT-LE	1 to 38	1, 38	GFSK	2.0

ANTENNA PORT CONDUCTED MEASUREMENT:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
BT-LE	0 to 39	0,19, 39	GFSK	1.0
BT-LE	1 to 38	1,19, 38	GFSK	2.0

TEST CONDITION			
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 70%RH	DC 2.5V/3V/3.55V By Adapter	Carl Xie
RE≥1G	23deg. C, 70%RH	DC 2.5V/3V/3.55V By Adapter	Carl Xie
PLC	25deg. C, 52%RH	DC 2.5V/3V/3.55V By Adapter	Carl Xie
APCM	25deg. C, 60%RH	DC 2.5V/3V/3.55V By Adapter	Carl Xie

2.4 DUTY CYCLE OF TEST SIGNAL

Please Refer to Appendix Of this test report..

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C, Section 15.247

KDB 558074 D01 DTS Meas Guidance v05r02

ANSI C63.10-2020

Note :

1. All test items have been performed and recorded as per the above standards.
2. The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (Certification). The test report has been issued separately.

2.6 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	N/A	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pulse limiter	SCHWARZBECK	VTSD 9561F	01579	2025/7/22	2026/7/21
ESR.EMI TEST RECEIVER	Rohde&SCHWARZ	ESR	101405	2025/5/30	2026/6/29
LISN	SCHWARZBECK	NSLK 8127	01216	2025/8/27	2026/8/26
Cable	Tonscend	/	/	2025/7/22	2026/7/21

NOTE:

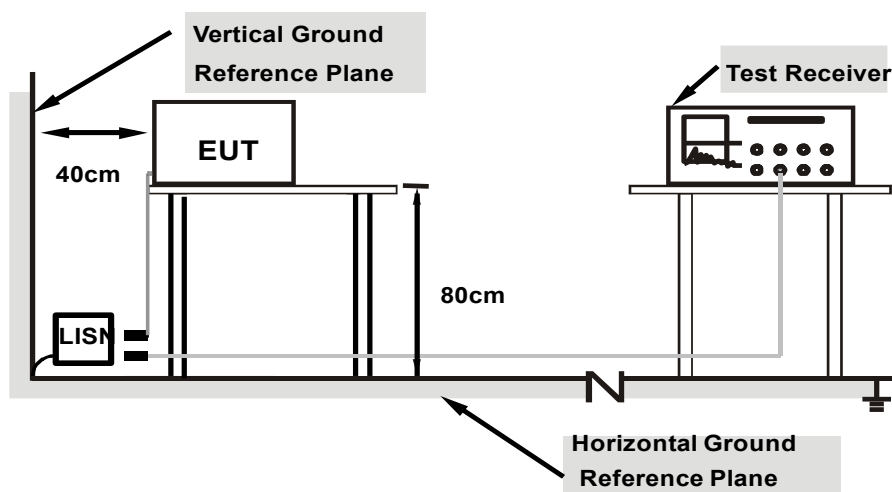
1. The test was performed in CE shielded room.
2. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

3.1.3 TEST PROCEDURES

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

3.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.1.5 DEVIATION FROM TEST STANDARD

No deviation.

3.1.6 EUT OPERATING CONDITIONS

- a. Turned on the power and connected of all equipment.
- b. EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

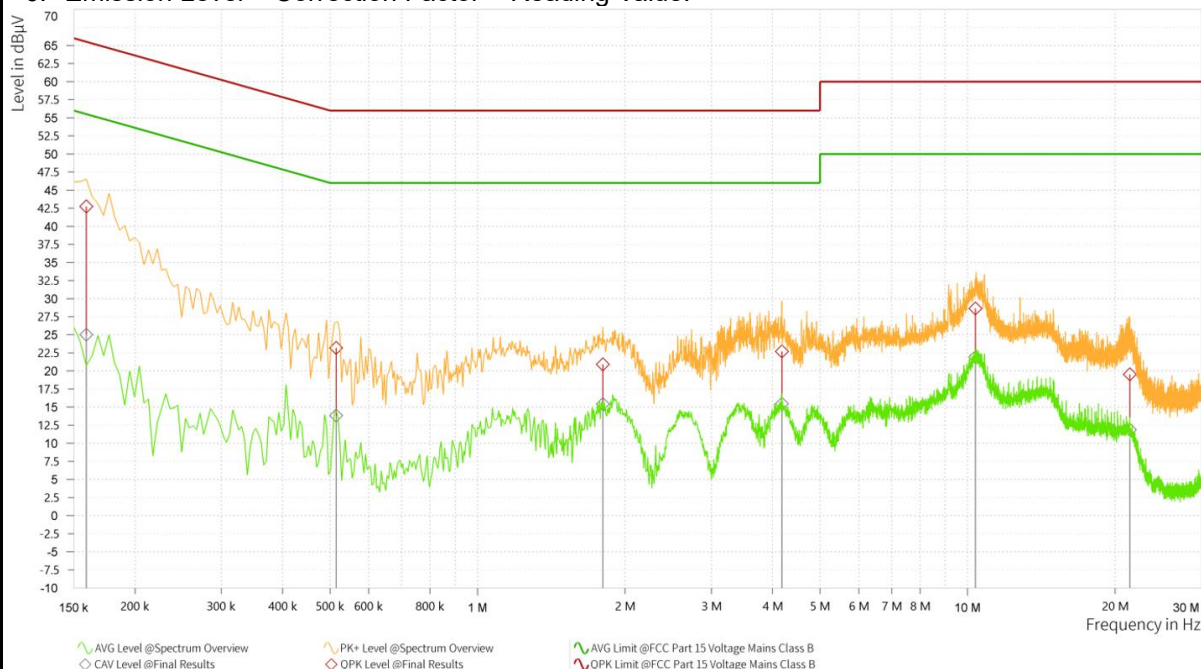
3.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA			
Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26deg. C, 51%RH
Tested By	Carl Xie		

Rg	Frequency [MHz]	QPK Level [dBμV]	QPK Limit [dBμV]	QPK Margin [dB]	CAV Level [dBμV]	CAV: AVG Limit [dBμV]	CAV Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]
1	0.159	42.74	65.52	22.78	25.00	55.52	30.52	9.67	L1	9.000
1	0.515	23.18	56.00	32.82	13.83	46.00	32.17	9.58	L1	9.000
1	1.802	20.92	56.00	35.08	15.44	46.00	30.56	9.58	L1	9.000
1	4.178	22.70	56.00	33.30	15.45	46.00	30.55	9.66	L1	9.000
1	10.379	28.63	60.00	31.37	21.91	50.00	28.09	9.87	L1	9.000
1	21.431	19.52	60.00	40.48	11.87	50.00	38.13	10.26	L1	9.000

REMARKS:

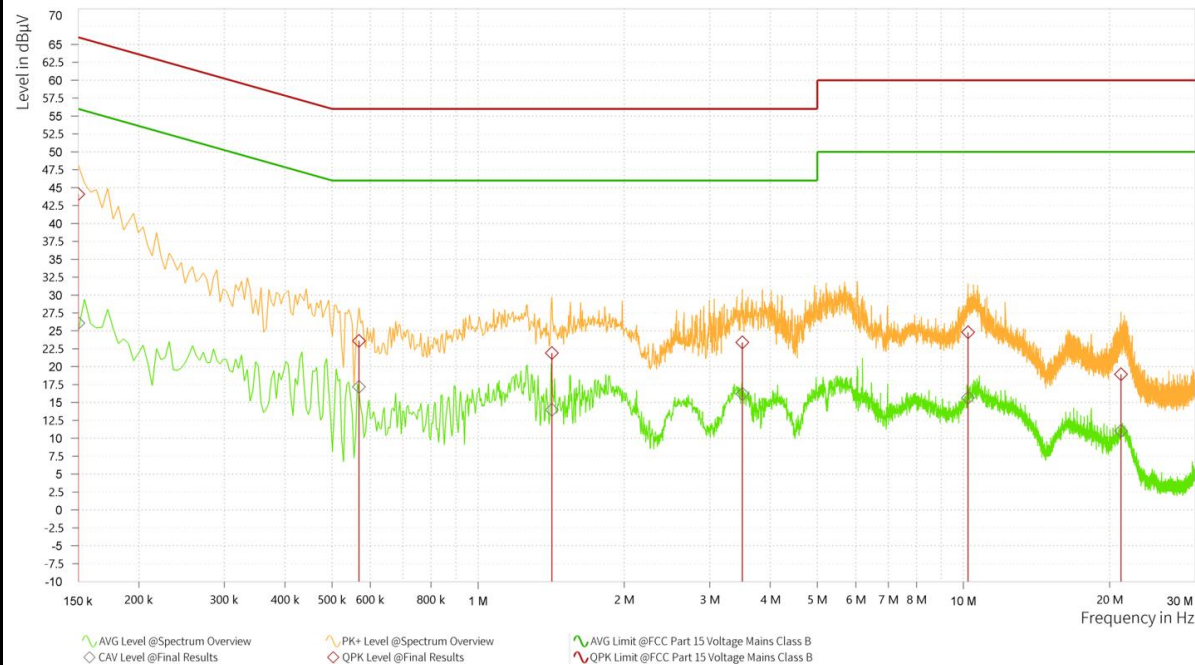
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Limit value -Emission level
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



Frequency Range		150KHz ~ 30MHz				Detector Function & Resolution Bandwidth		Quasi-Peak (QP) / Average (AV), 9 kHz		
Input Power		120Vac, 60Hz				Environmental Conditions		26deg. C, 51%RH		
Tested By		Carl Xie								
Rg	Frequency [MHz]	QPK Level [dBμV]	QPK Limit [dBμV]	QPK Margin [dB]	CAV Level [dBμV]	CAV: AVG Limit [dBμV]	CAV Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]
1	0.150	44.09	66.00	21.91	26.09	56.00	29.91	9.68	N	9.000
1	0.569	23.60	56.00	32.40	17.19	46.00	28.81	9.58	N	9.000
1	1.419	21.93	56.00	34.07	13.98	46.00	32.02	9.58	N	9.000
1	3.503	23.38	56.00	32.62	16.23	46.00	29.77	9.63	N	9.000
1	10.217	24.81	60.00	35.19	15.66	50.00	34.34	9.85	N	9.000
1	21.111	18.94	60.00	41.06	11.04	50.00	38.96	10.17	N	9.000

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Limit value -Emission level
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Test Report No.: RF260401B001

3.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	2025/7/3	2026/7/2
BiConiLog Antenna	ETS-LINDGREN	3143B	161965	2025/7/17	2026/7/16
Horn Antenna	SCHWARZBECK	BBHA9120D	3297	2025/9/27	2026/9/26
Horn Antenna	STEATITE	QWH-SL-18-40-K-SG QMS-00361	15433	2025/7/19	2026/7/18
Preamplifier	Tonscend	TPA184045	AP24L8060388	2025/7/3	2026/7/2
MXE EMI Receiver	keysight	N9038B	MY50018017	2025/7/1	2026/6/30
MXG Vector Signal Generator	Keysight	N5183B	MY59100137	2025/6/30	2026/6/29
Preamplifier	Tonscend	TPA001330	806JSAPO40804251015	2025/6/30	2026/6/29
Preamplifier	Tonscend	TPA011845	AP24L8060392	2025/6/30	2026/6/29
Attenuator 6DB	SHX	TS2-6-6-A	230927166	2025/6/30	2026/6/29
Attenuator 6DB	SHX	TS2-6-6-A	230927165	2025/6/30	2026/6/29
Active Receive Loop Antenna	SCHWARZBECK	FMZB 1519 B	00173	2025/6/30	2026/6/29
Temp. & Humi. Recorder	Kejian	HTC-01	157246	2025/7/2	2026/7/1
HIGH pass FILTER_1-18	EWT	EWT-57-0222	EWT-57-0222	2025/6/30	2026/6/29
HIGH pass FILTER_7-18	EWT	EWT-57-0223	EWT-57-0223	2025/6/30	2026/6/29
HIGH pass FILTER_3-18	EWT	EWT-57-0221	EWT-57-0221	2025/6/30	2026/6/29
DC~1GHz Lowpass Filter	EWT	EWT-56-0649	EWT-56-0649	2025/7/3	2026/7/2
Cable 1	N/A	N/A	N/A	2025/9/28	2026/9/27
Cable 2	N/A	N/A	N/A	2025/9/28	2026/9/27
Cable 3	N/A	N/A	N/A	2025/9/28	2026/9/27

NOTE:

1. The calibration interval of the above test instruments is 12months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Chamber.
3. The FCC Site Registration No. is 646781; The Designation No. is CN1429.

3.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

Note:

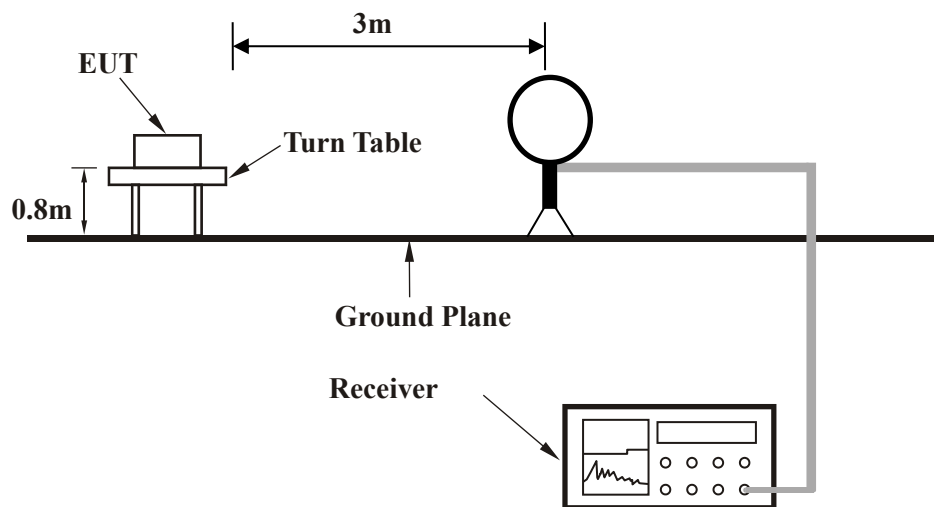
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

3.2.4 DEVIATION FROM TEST STANDARD

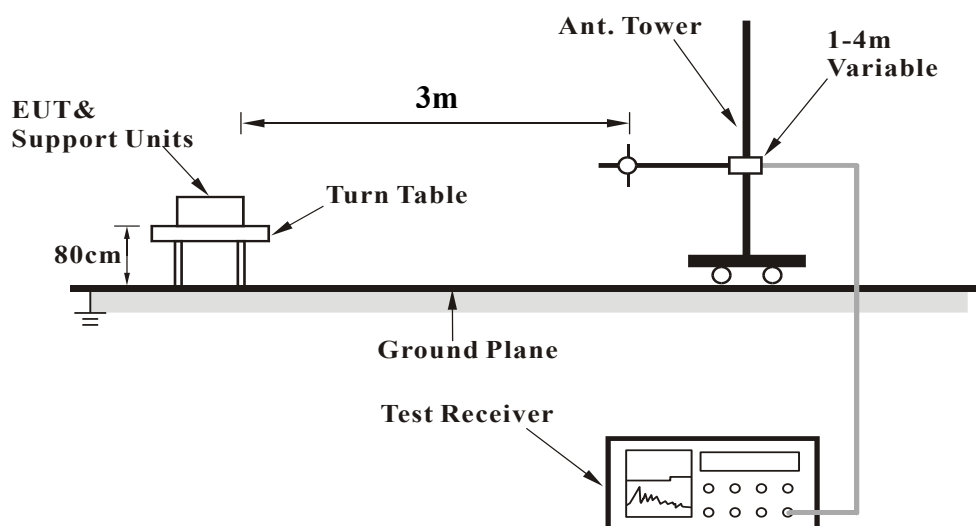
No deviation

3.2.5 TEST SETUP

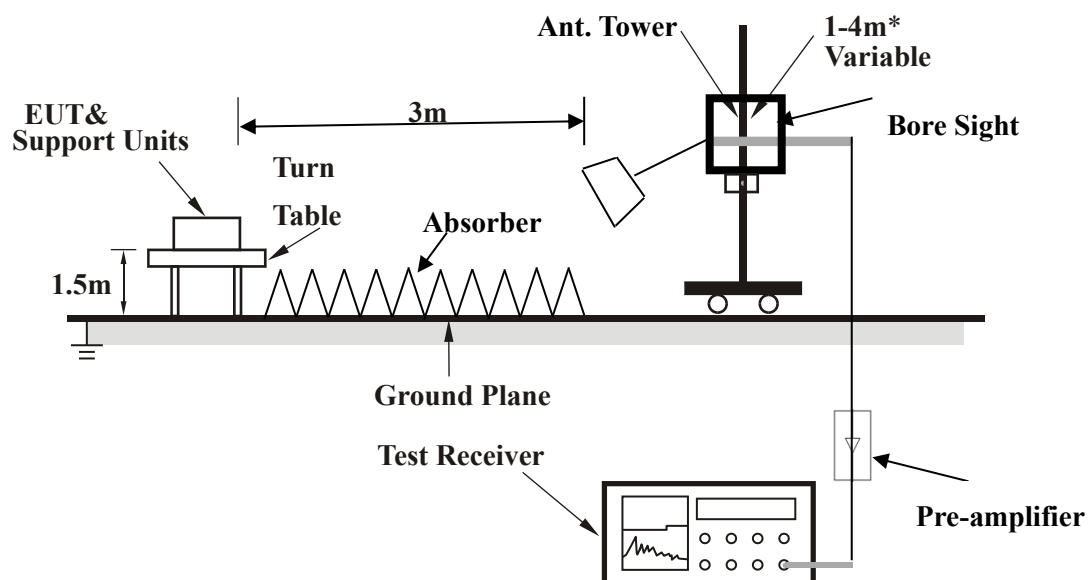
<Frequency Range 9KHz~30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.2.6 EUT OPERATING CONDITIONS

- Set the EUT under full load condition and placed them on a testing table.
- Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the EUT in full functions.

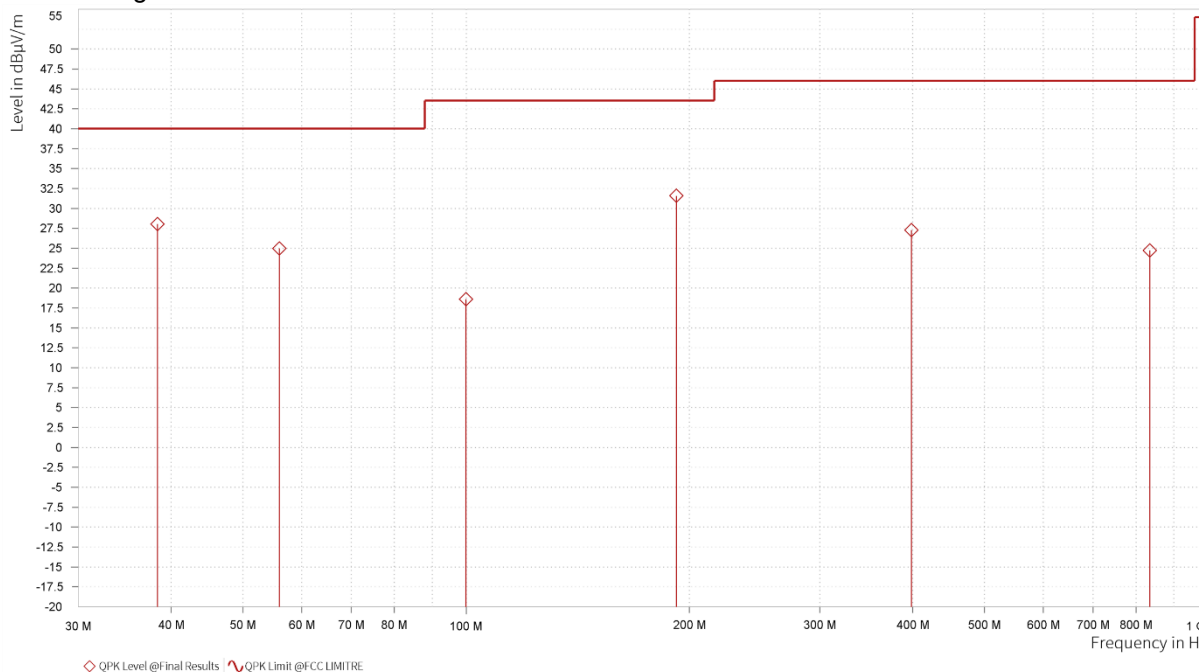
3.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

BT-LE_2M									
CHANNEL		TX Channel 19		ODETECTOR FUNCTION			Quasi-Peak (QP)		
FREQUENCY RANGE		30MHz ~ 1GHz							
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
Rg	Frequency [MHz]	QPK Level [dBμV/m]	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]
1	38.342	28.02	40.00	11.98	-11.61	H	359	1.00	120.000
1	55.996	24.98	40.00	15.02	-10.60	H	274.2	1.00	120.000
1	99.986	18.61	43.50	24.89	-12.20	H	1	2.00	120.000
1	191.990	31.57	43.50	11.93	-11.49	H	359	1.00	120.000
1	398.309	27.27	46.00	18.73	-4.21	H	134.2	1.00	120.000
1	835.149	24.72	46.00	21.28	0.38	H	4.8	1.00	120.000

REMARKS:

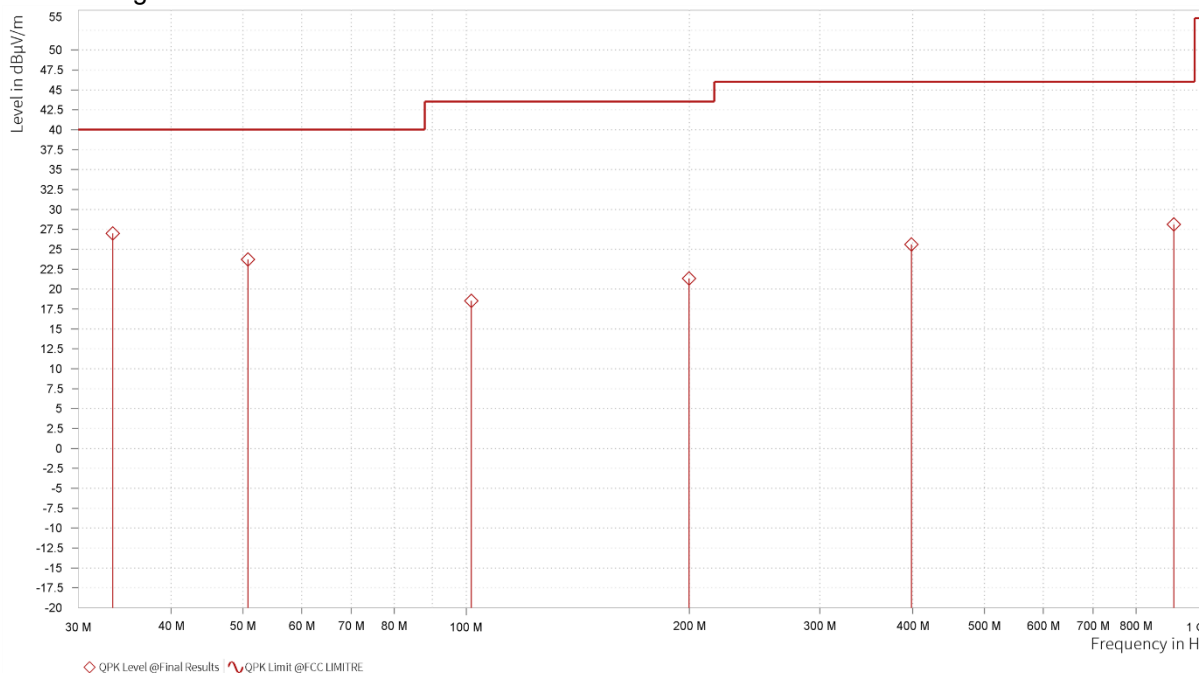
- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Limit value – Emission Level



CHANNEL		TX Channel 19			DETECTOR FUNCTION		Quasi-Peak (QP)		
FREQUENCY RANGE		30MHz ~ 1GHz							
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
Rg	Frequency [MHz]	QPK Level [dBμV/m]	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]
1	33.395	26.99	40.00	13.01	-13.00	V	224.6	2.00	120.000
1	50.807	23.72	40.00	16.28	-9.98	V	290.9	1.00	120.000
1	101.635	18.52	43.50	24.98	-12.21	V	4.9	1.00	120.000
1	199.702	21.32	43.50	22.18	-11.12	V	224.6	2.00	120.000
1	398.309	25.60	46.00	20.40	-4.21	V	359.1	1.00	120.000
1	899.508	28.11	46.00	17.89	1.89	V	4.9	1.00	120.000

REMARKS:

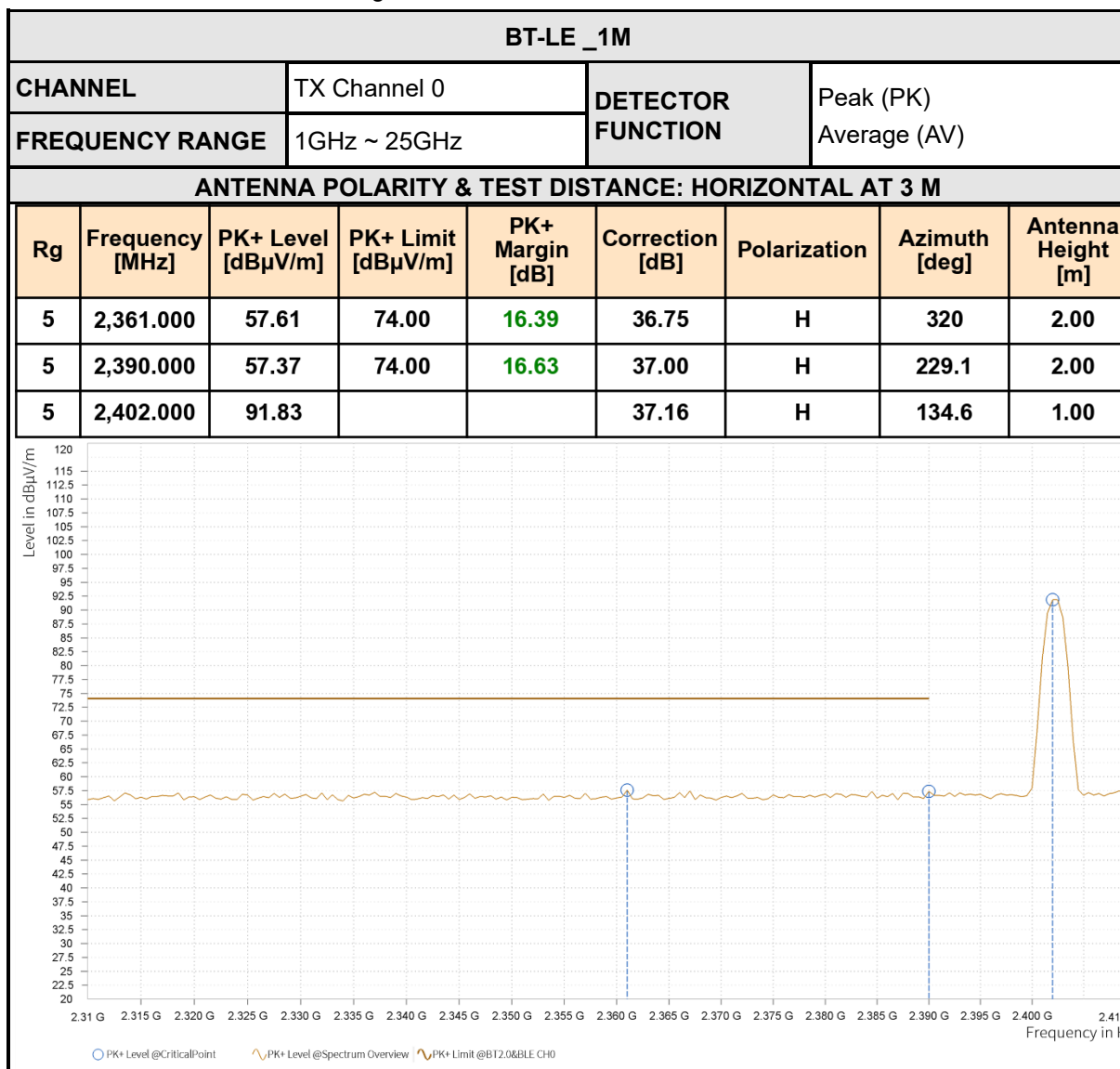
- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Limit value – Emission Level

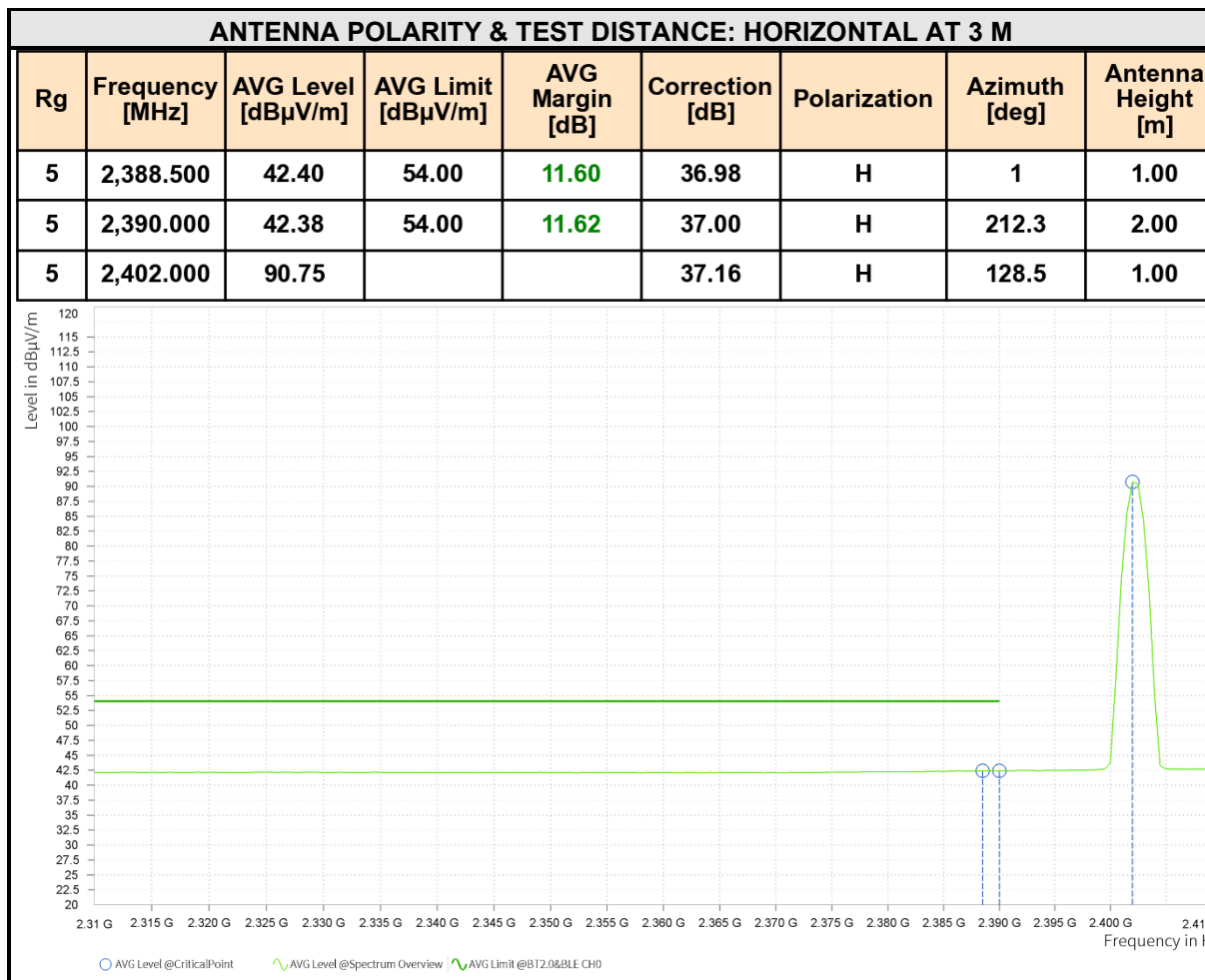


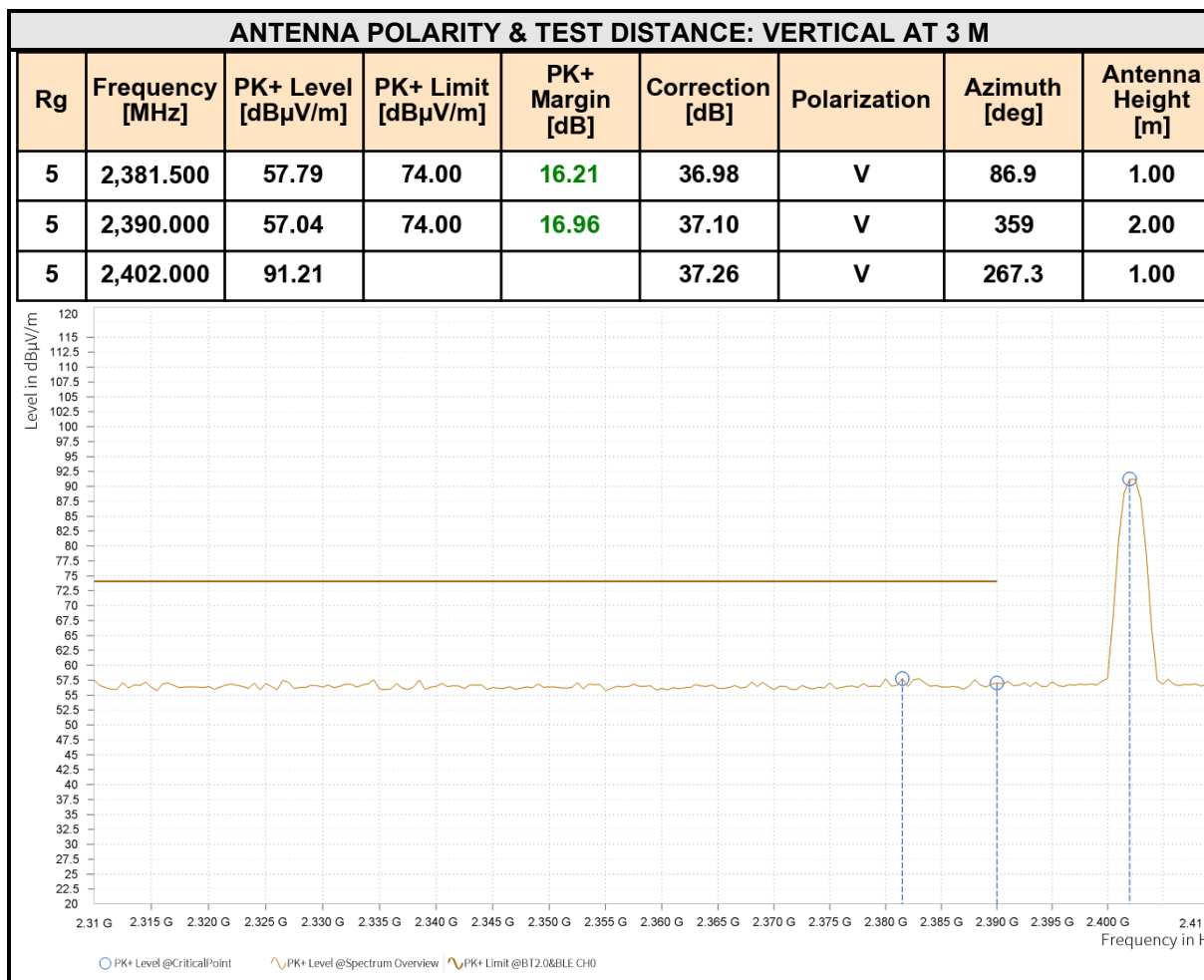
ABOVE 1GHz TEST DATA

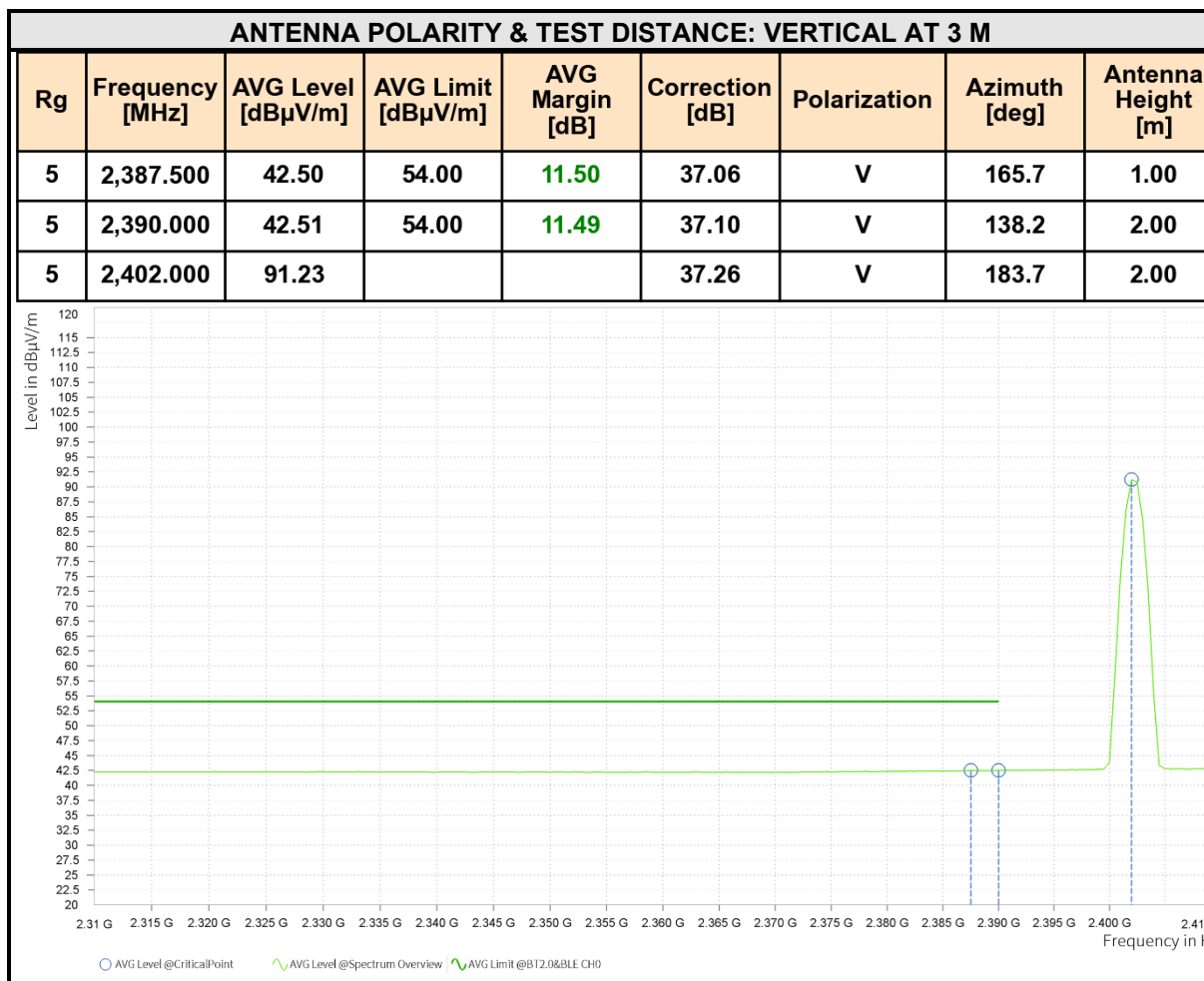
Note:

1. For radiated emissions testing , the full testing range of different modes have been scanned , only the worst case harmonic data is reported in the sheet.
2. All other emissions were greater than 20dB below the limit was not recorded



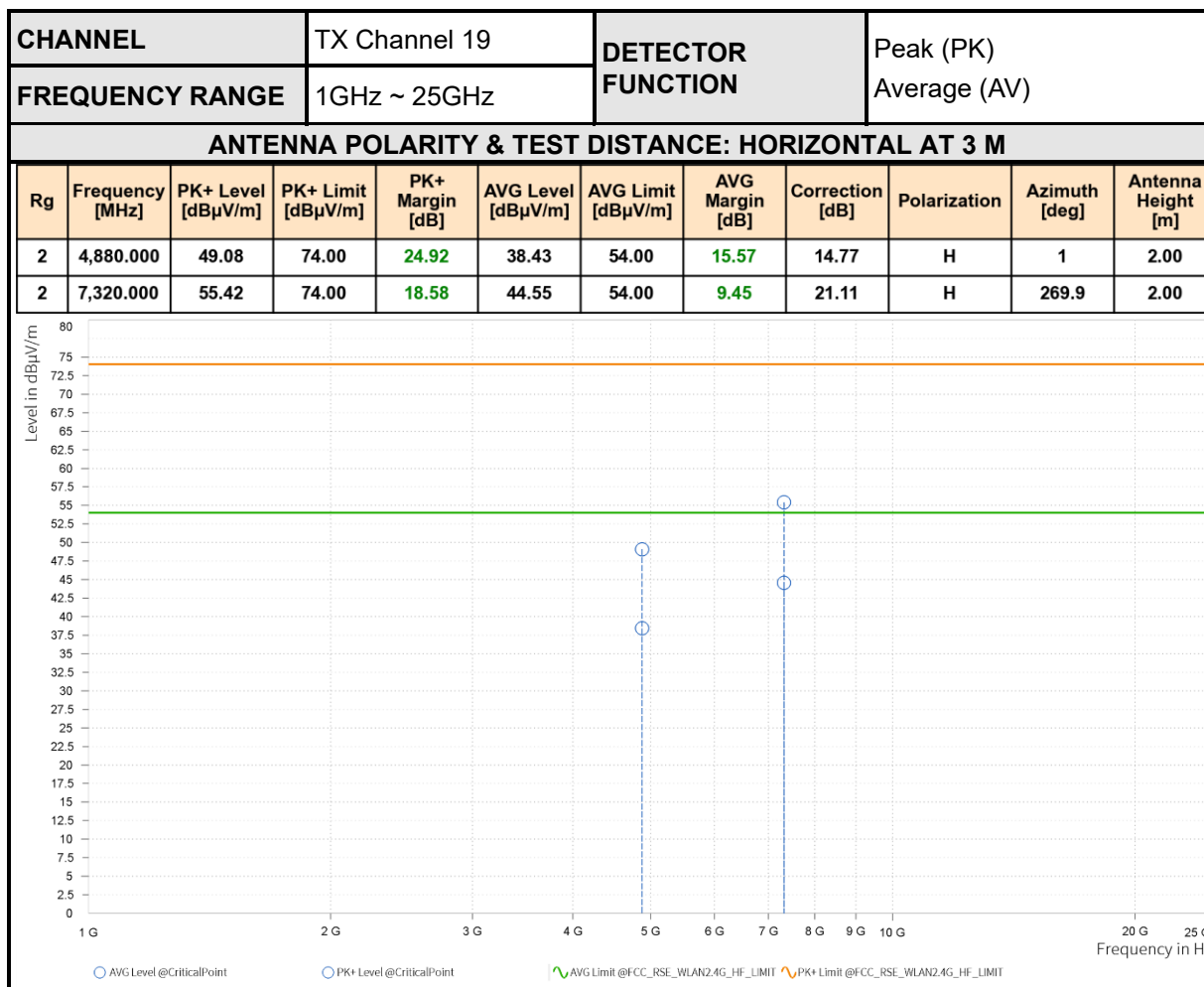


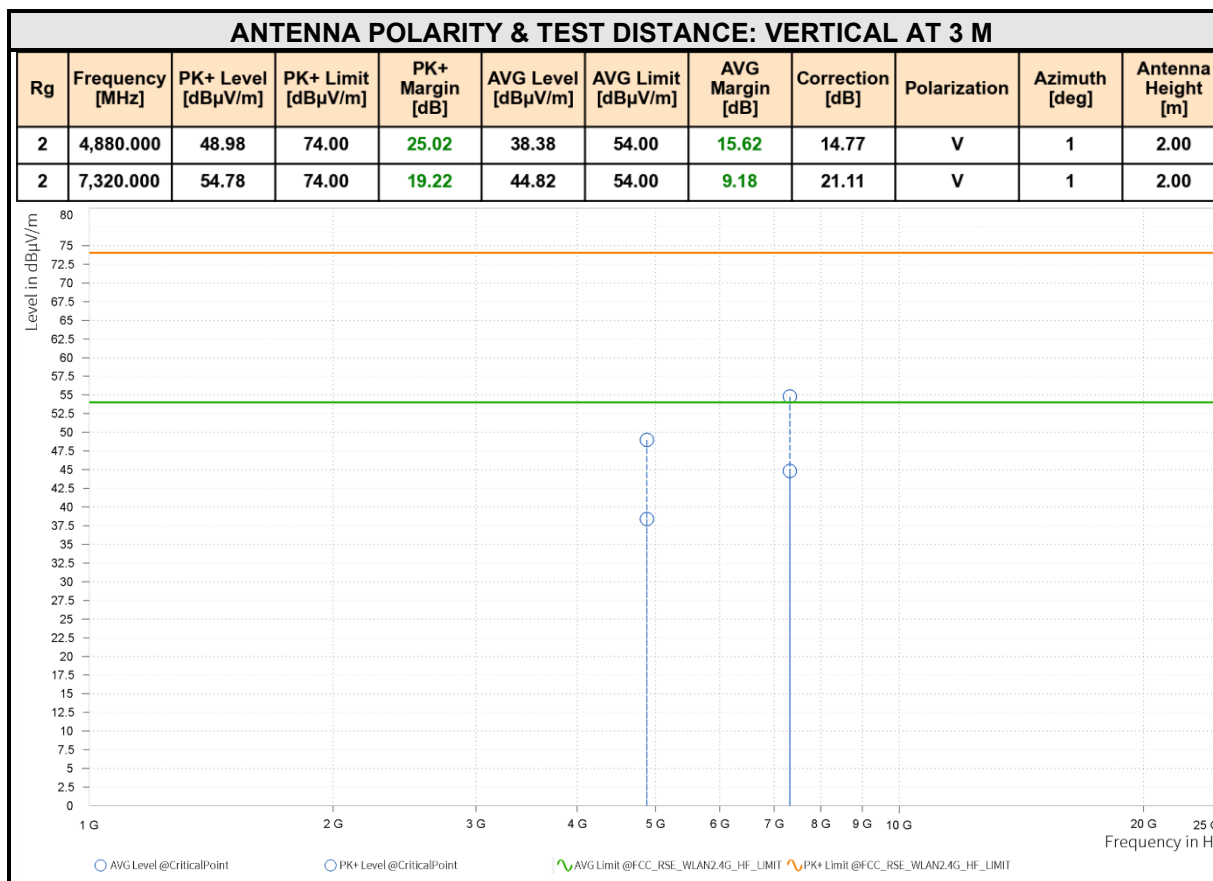




REMARKS:

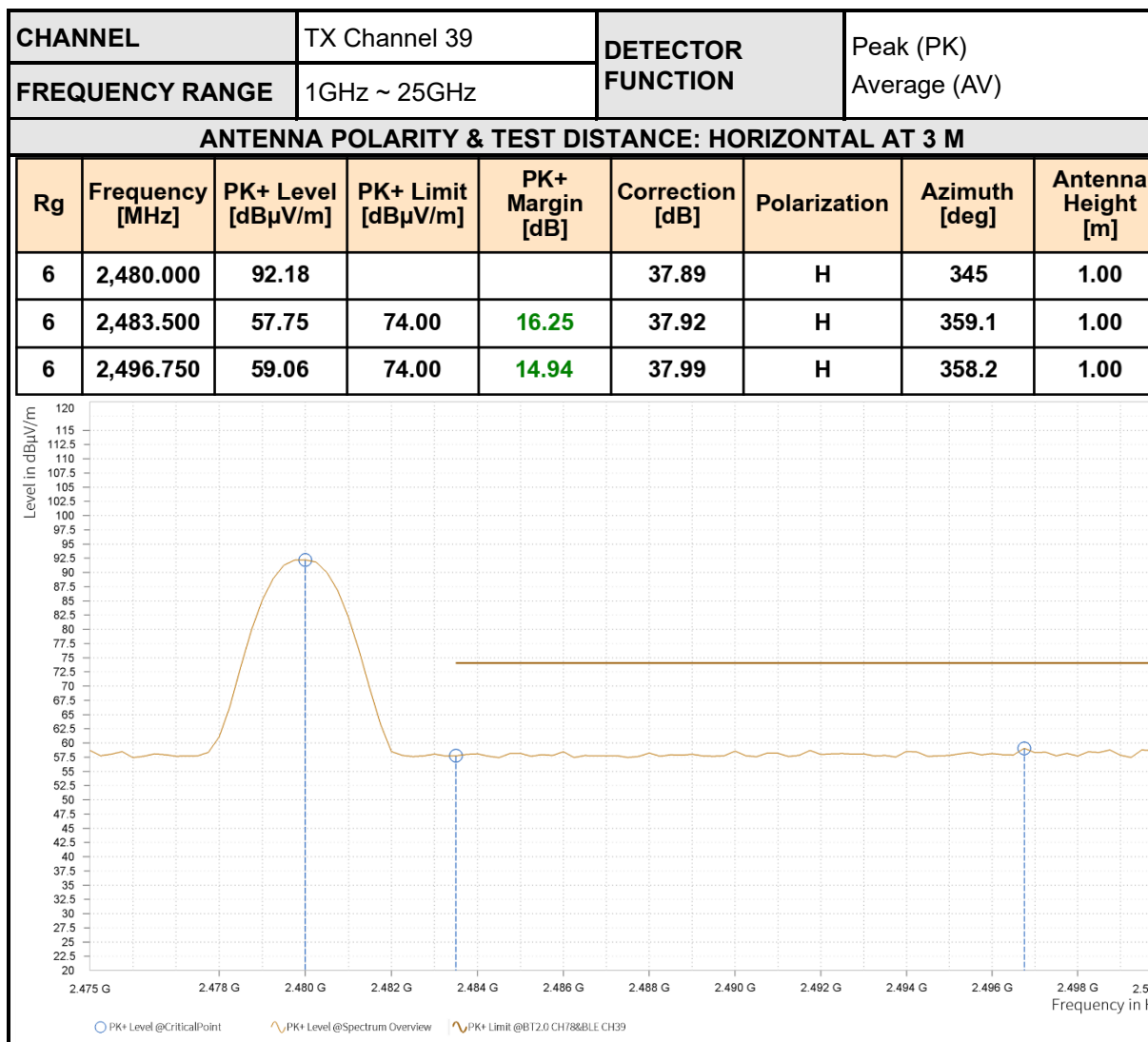
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2402MHz: Fundamental frequency.

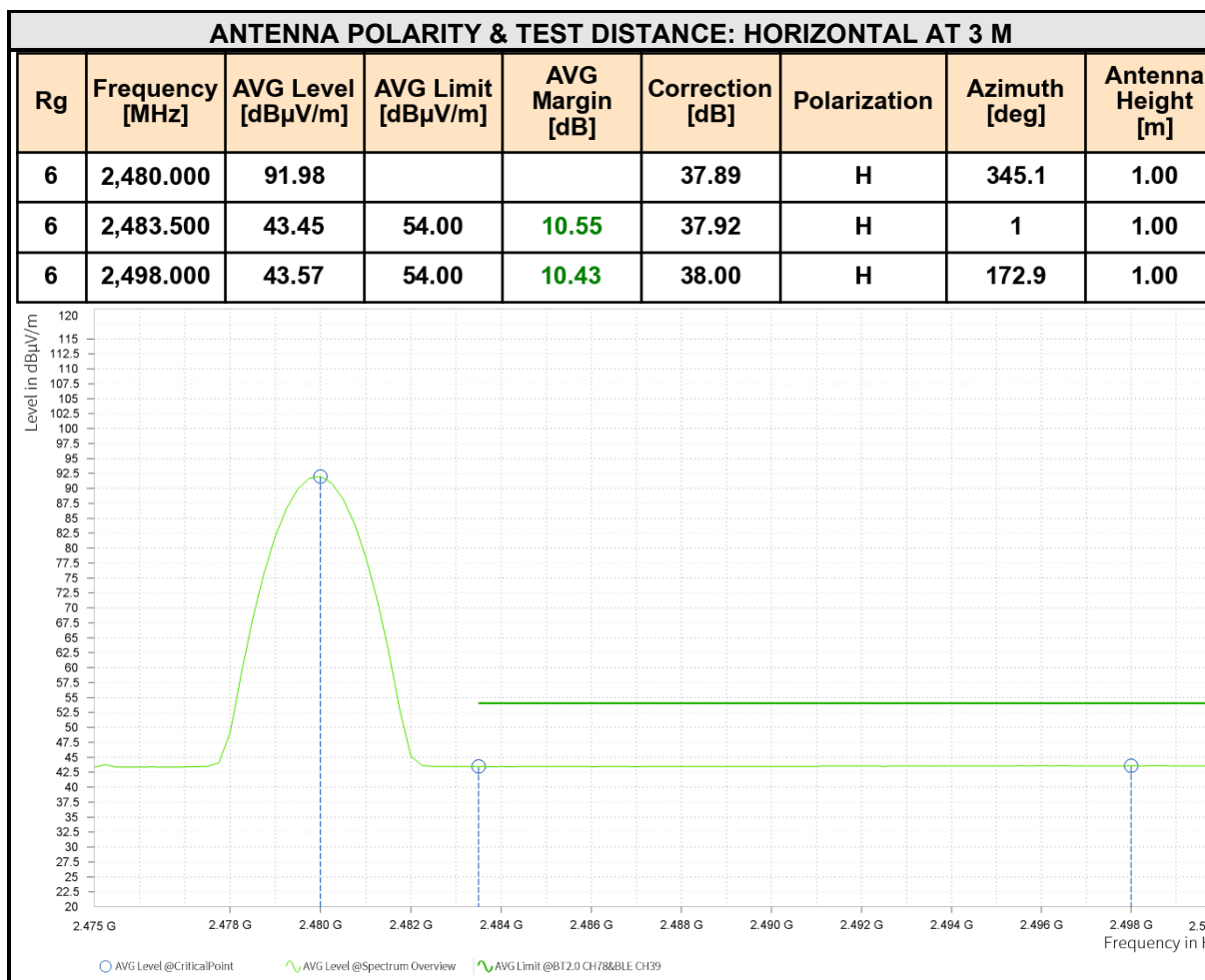


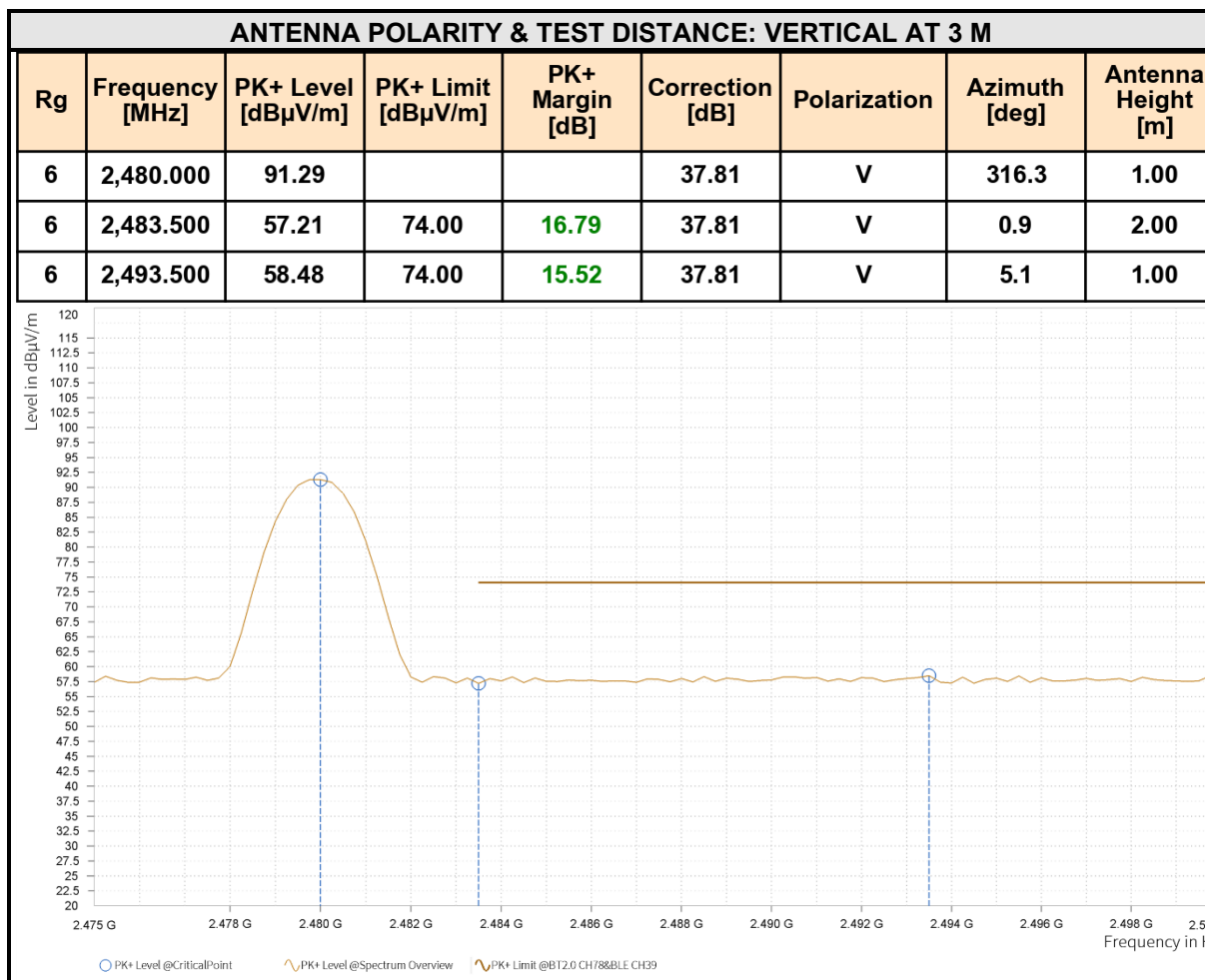


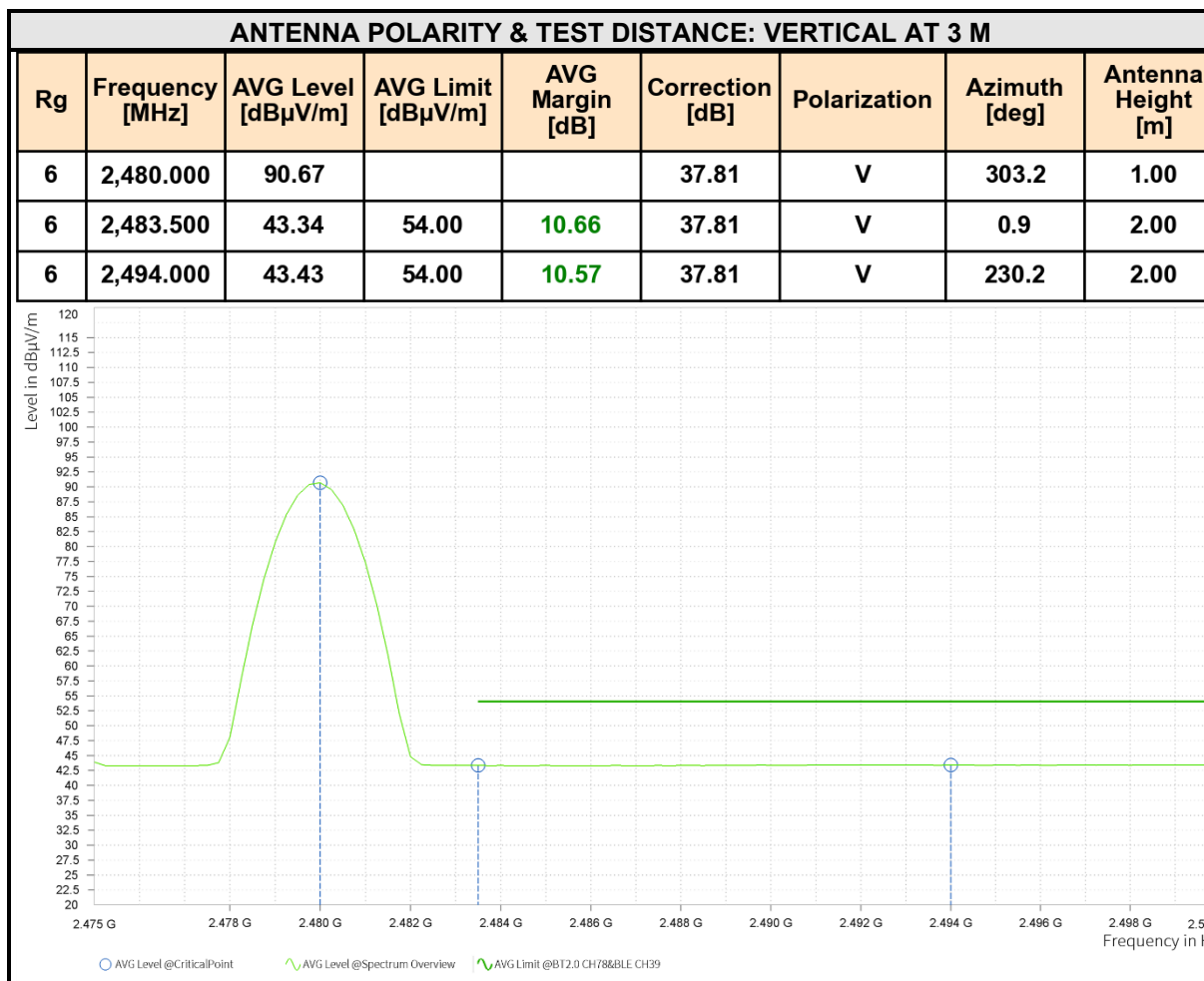
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2440MHz: Fundamental frequency.



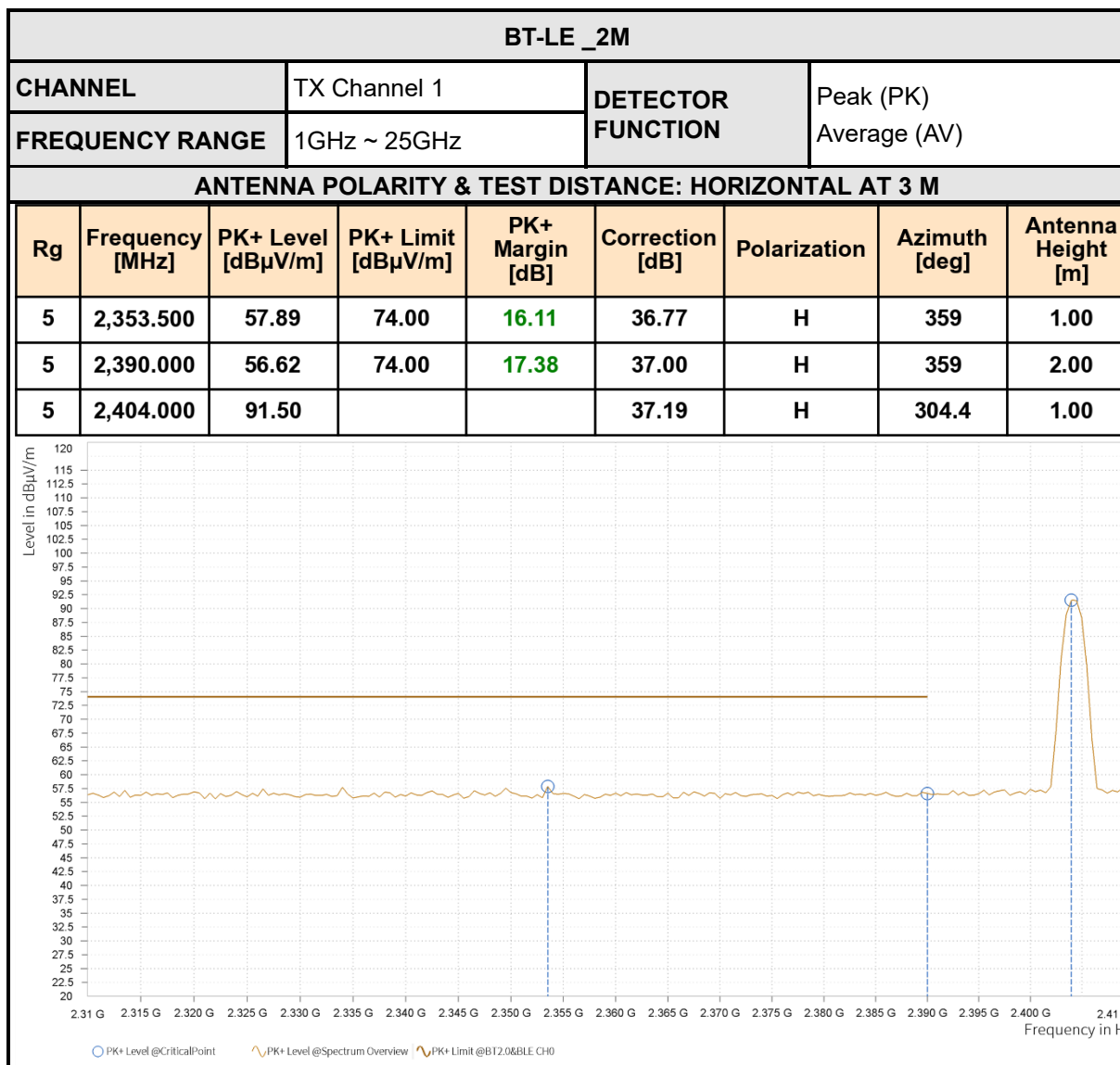


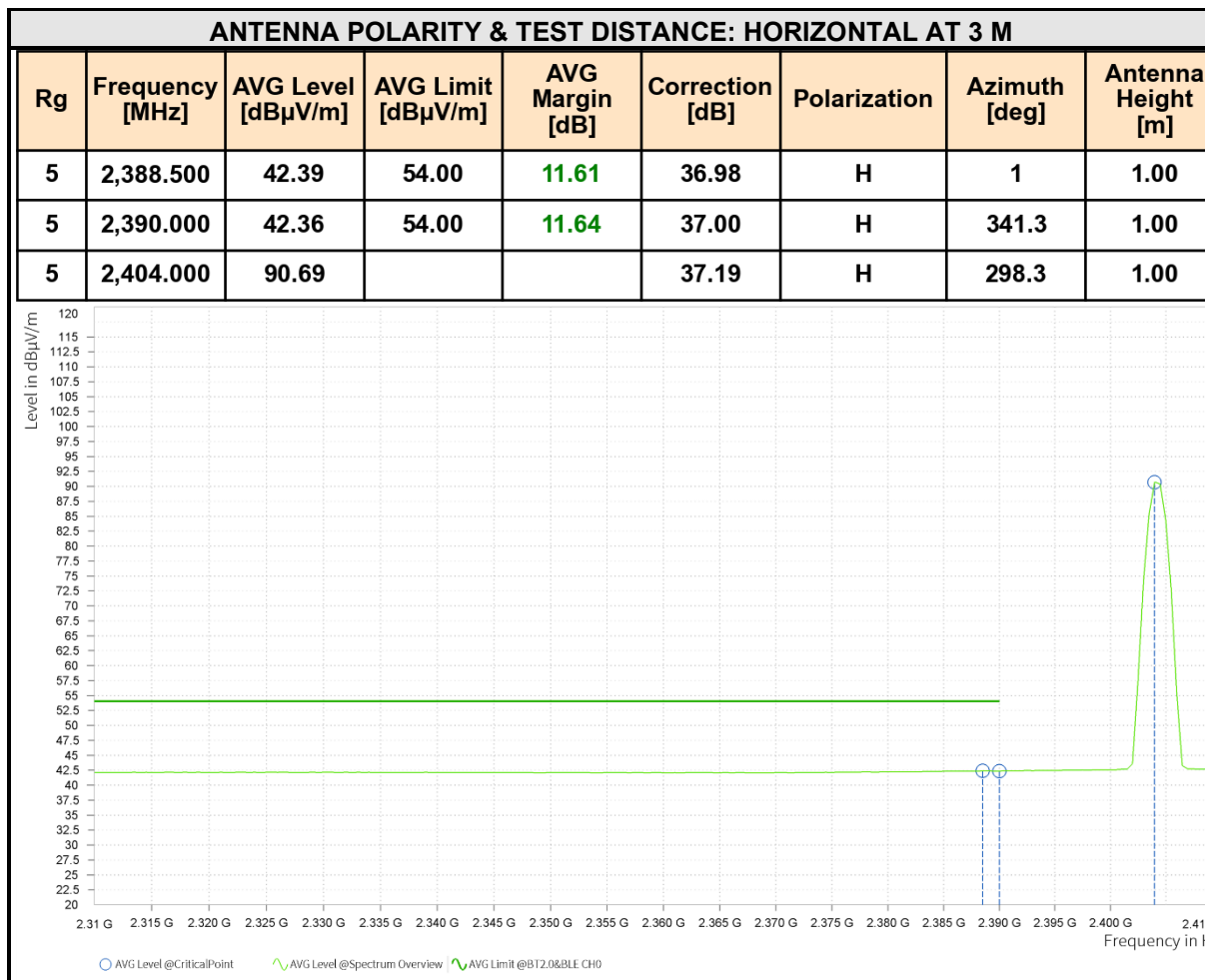


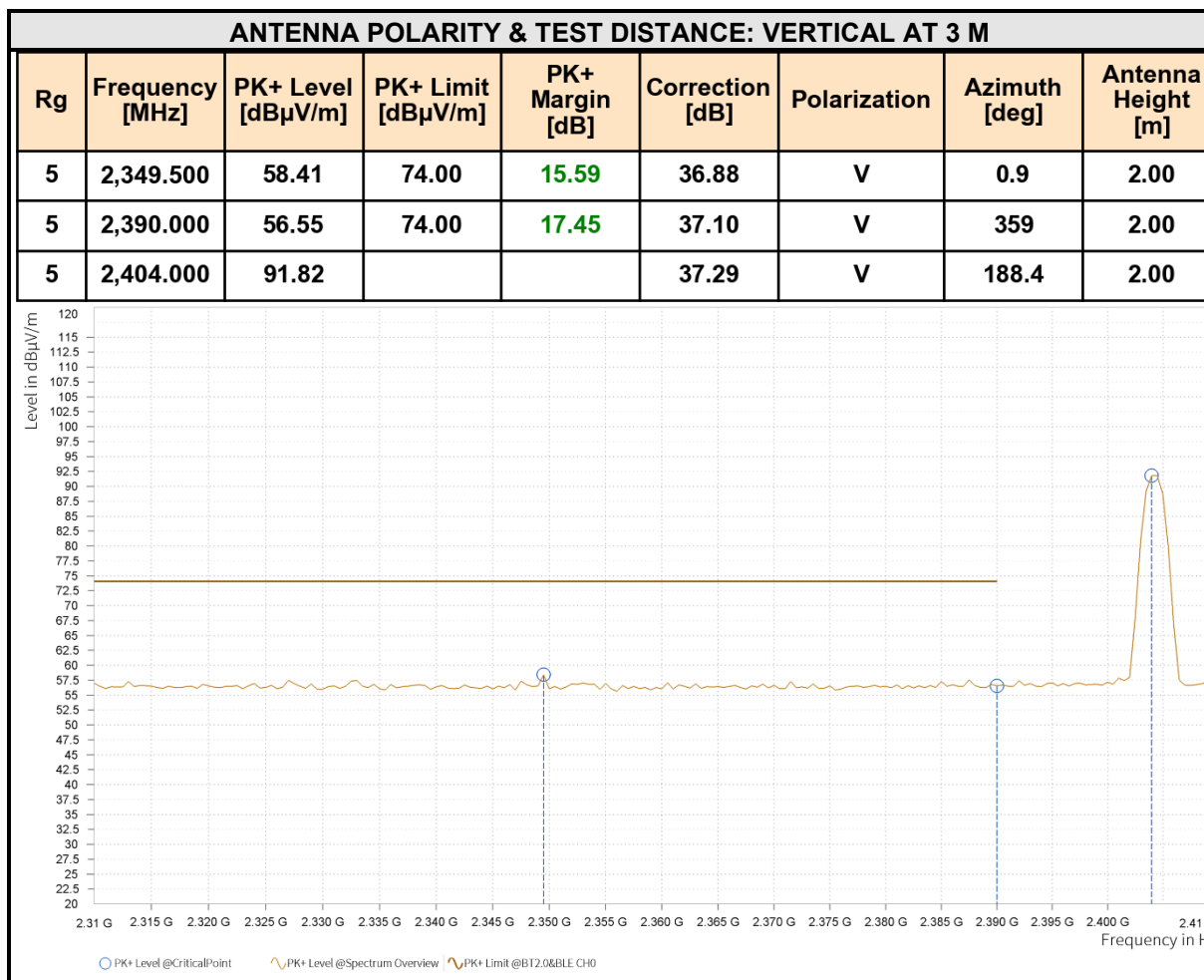


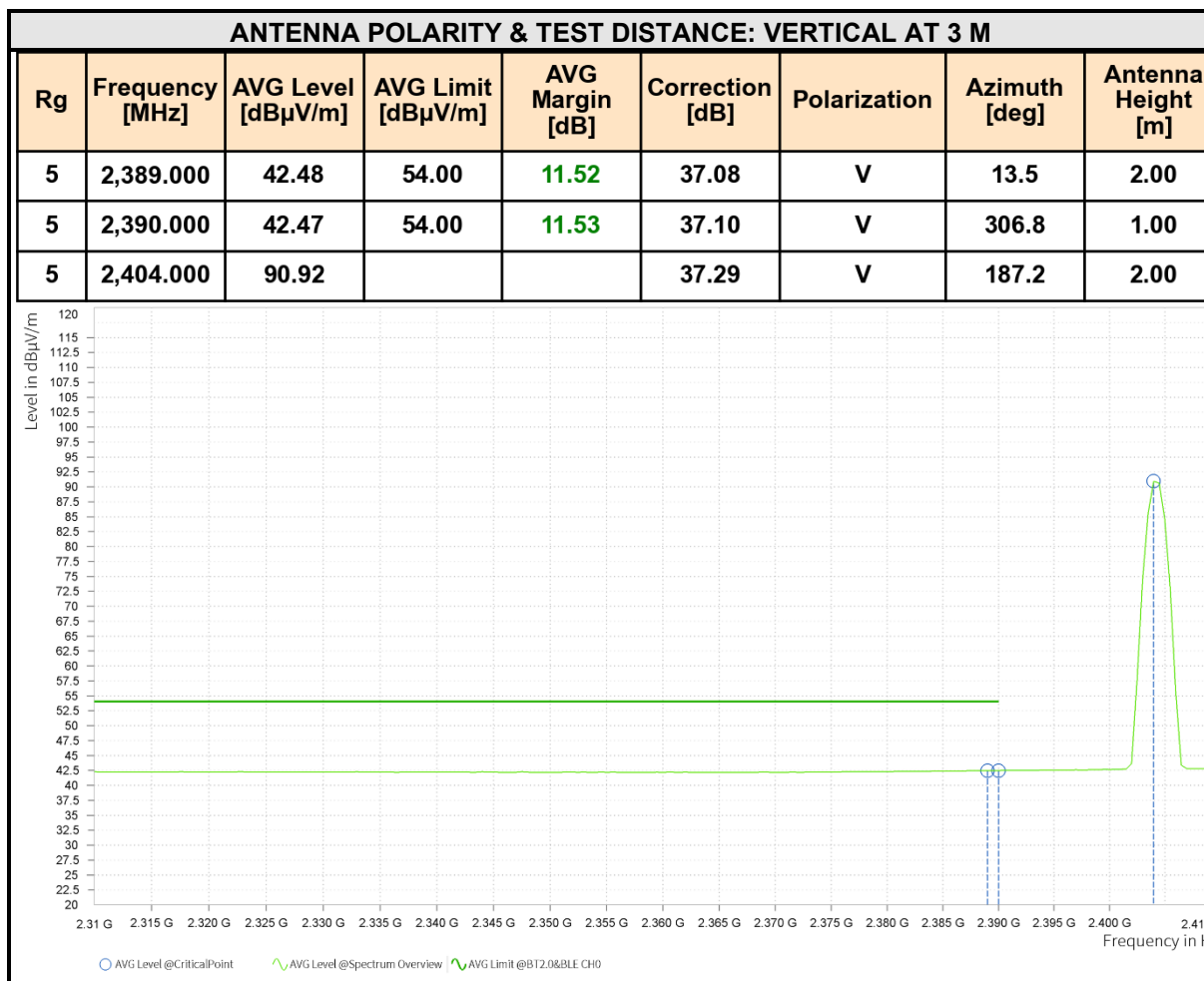
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2480MHz: Fundamental frequency.



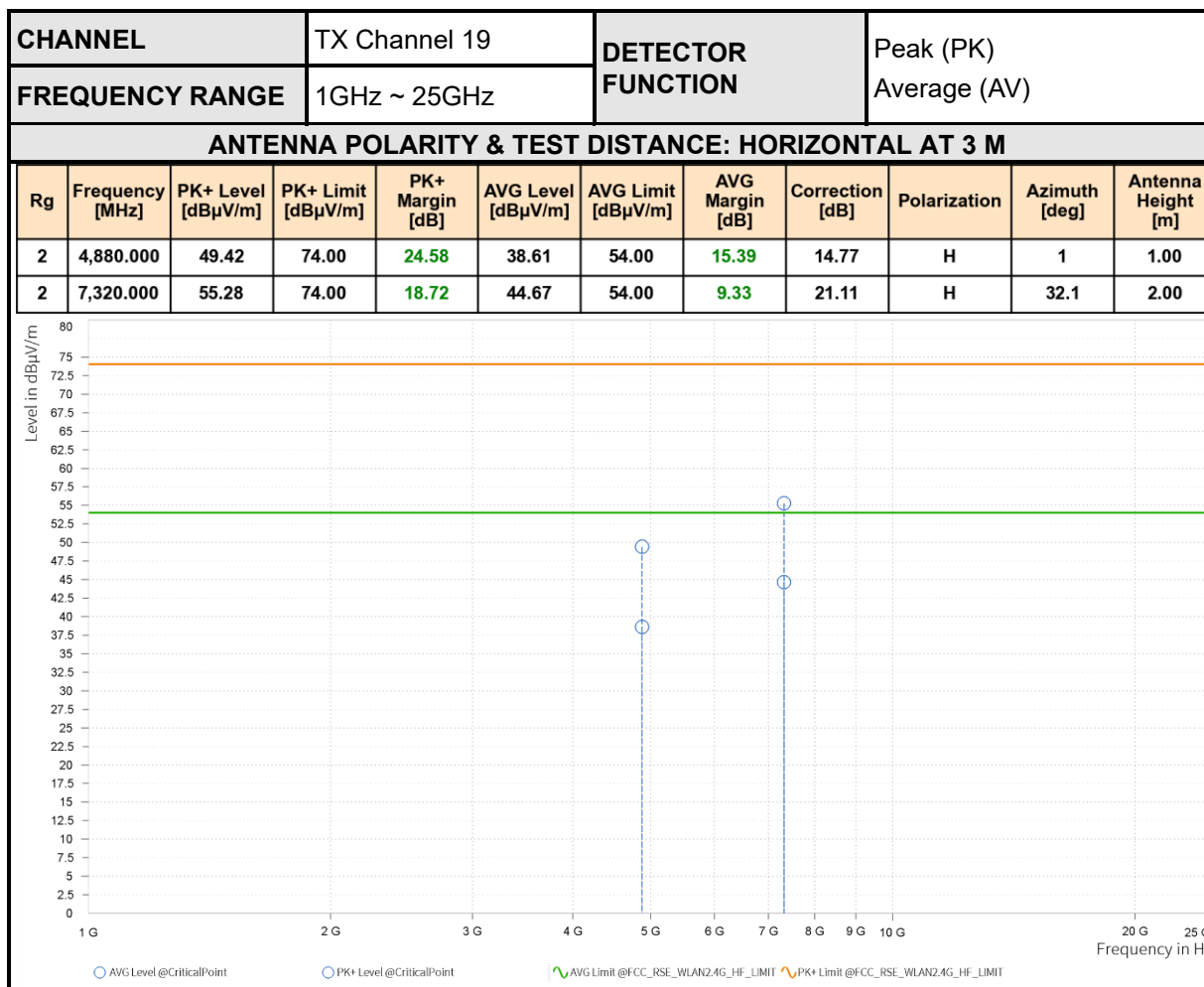


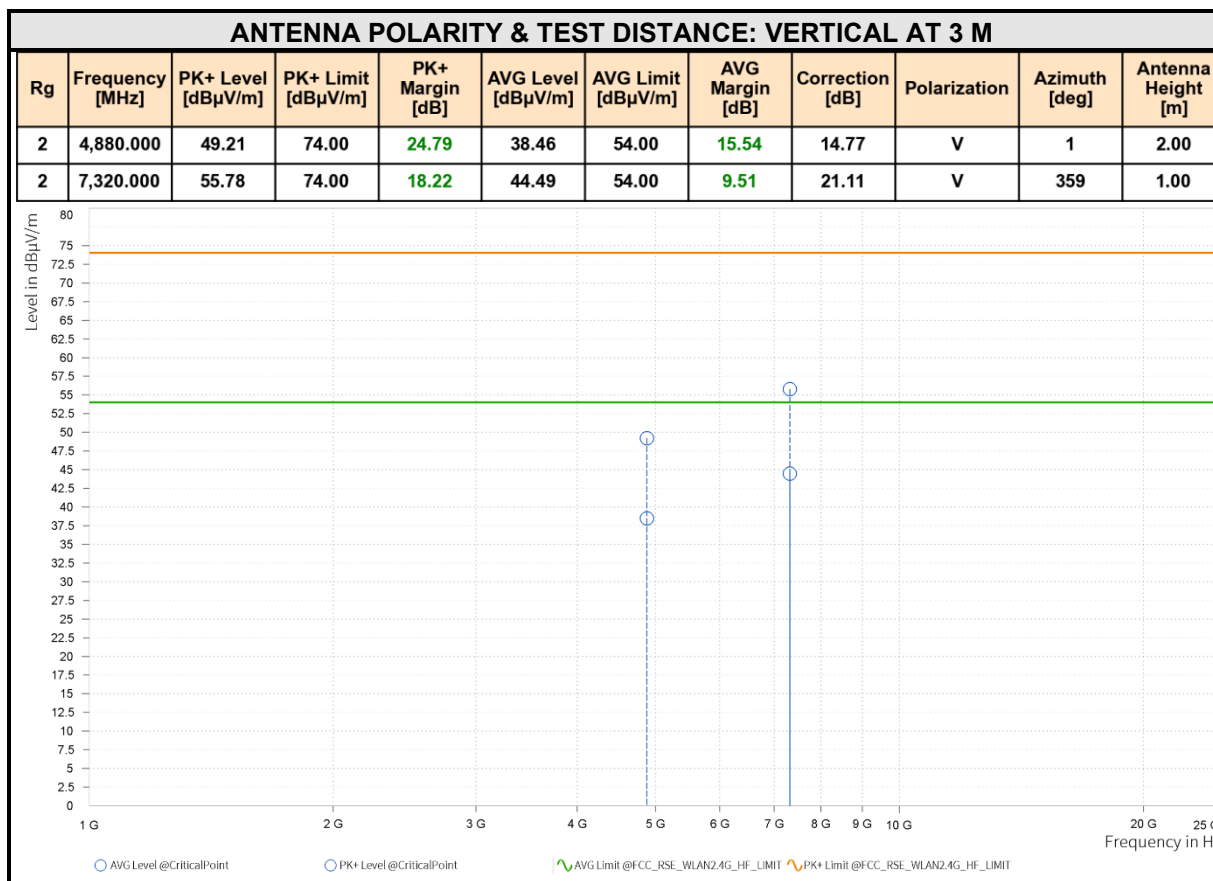




REMARKS:

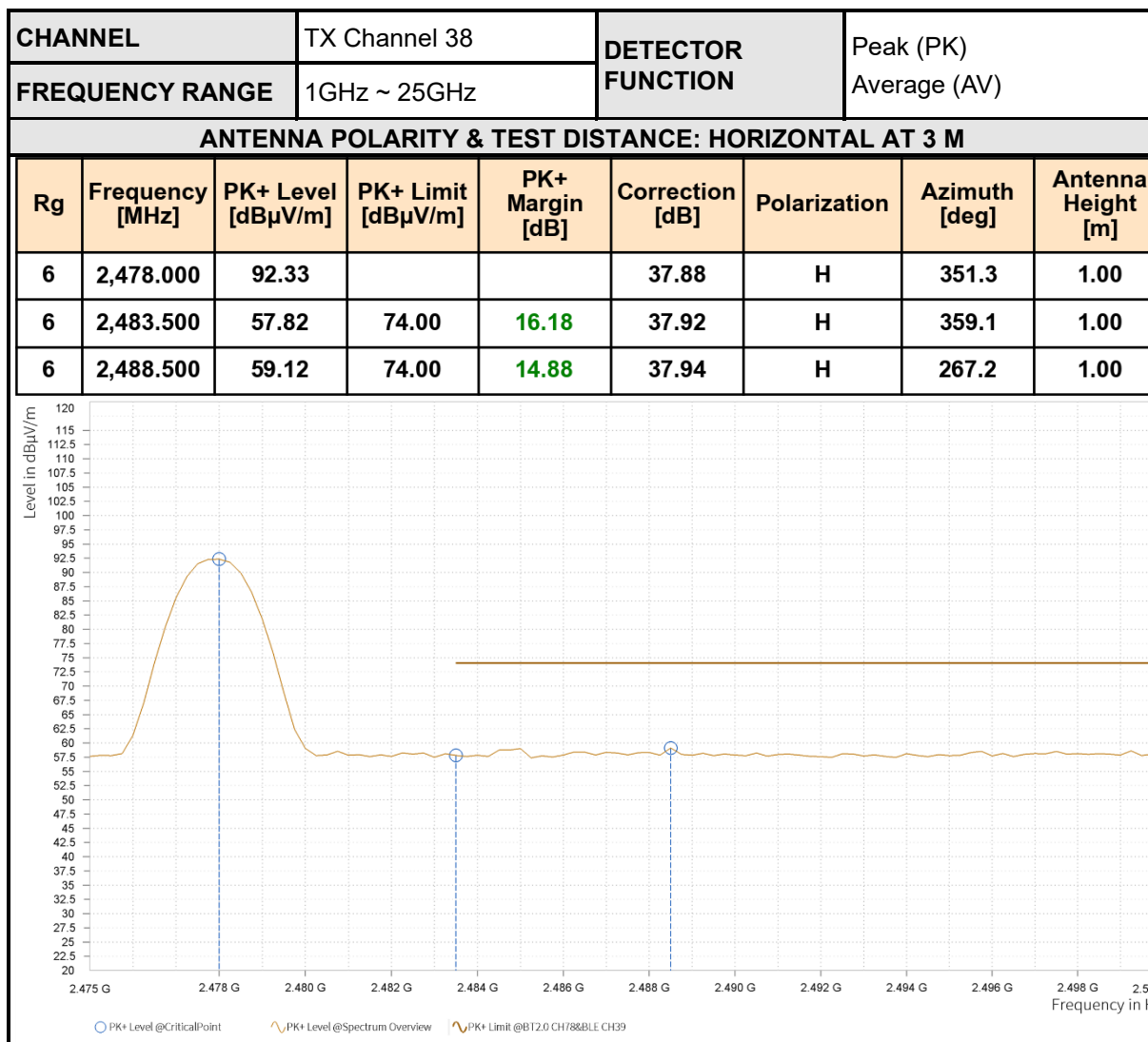
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value–Emission level.
3. 2404MHz: Fundamental frequency.

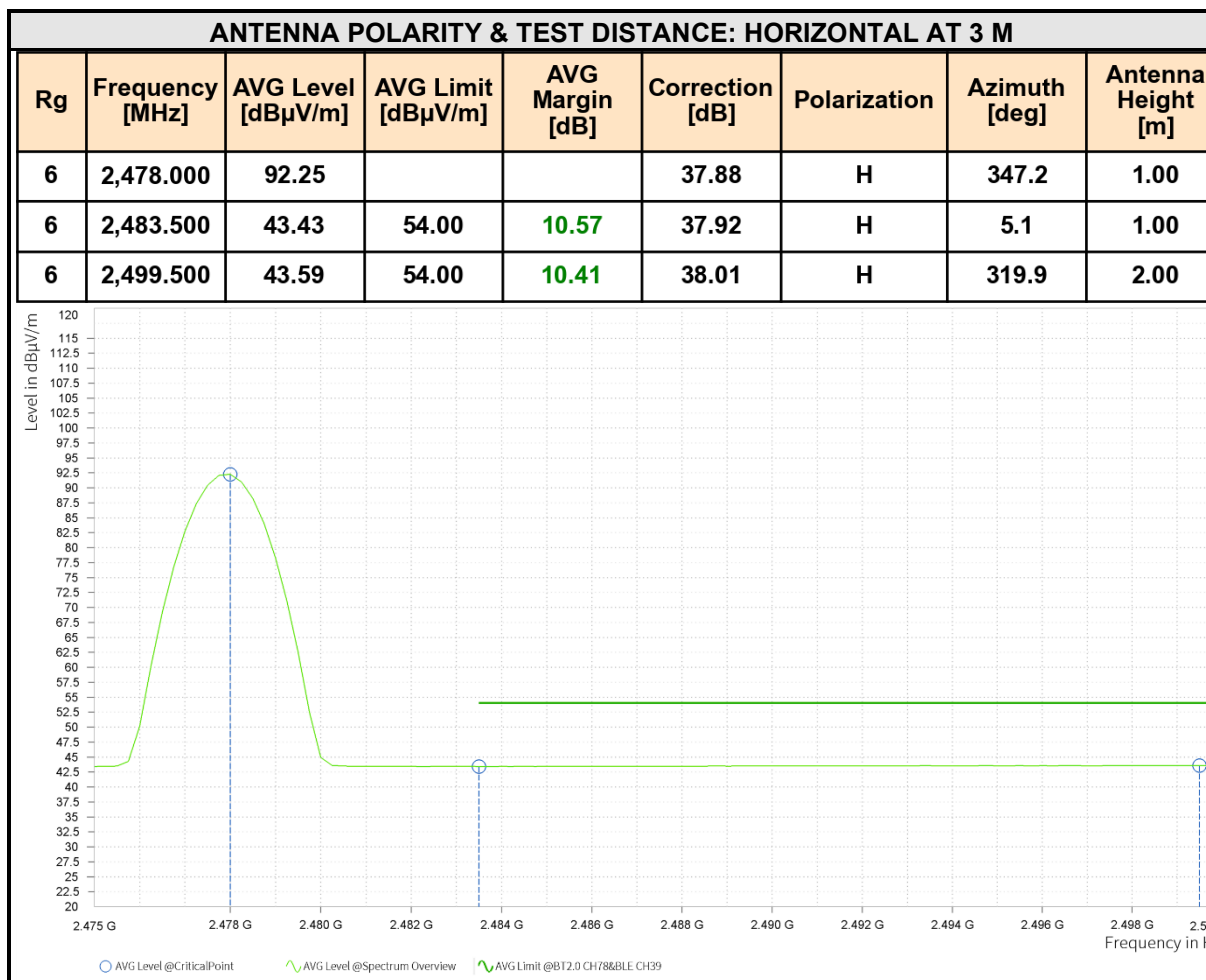


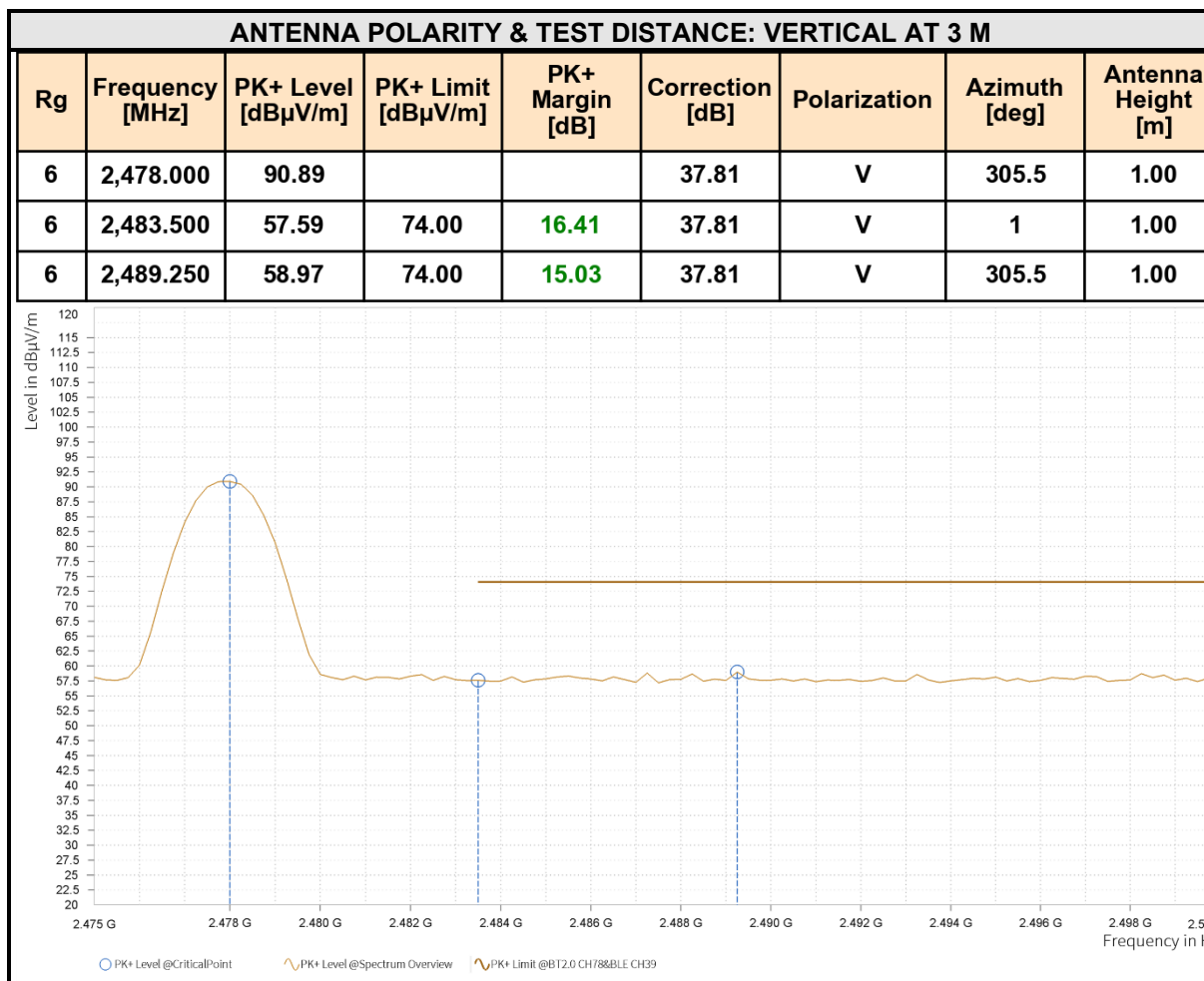


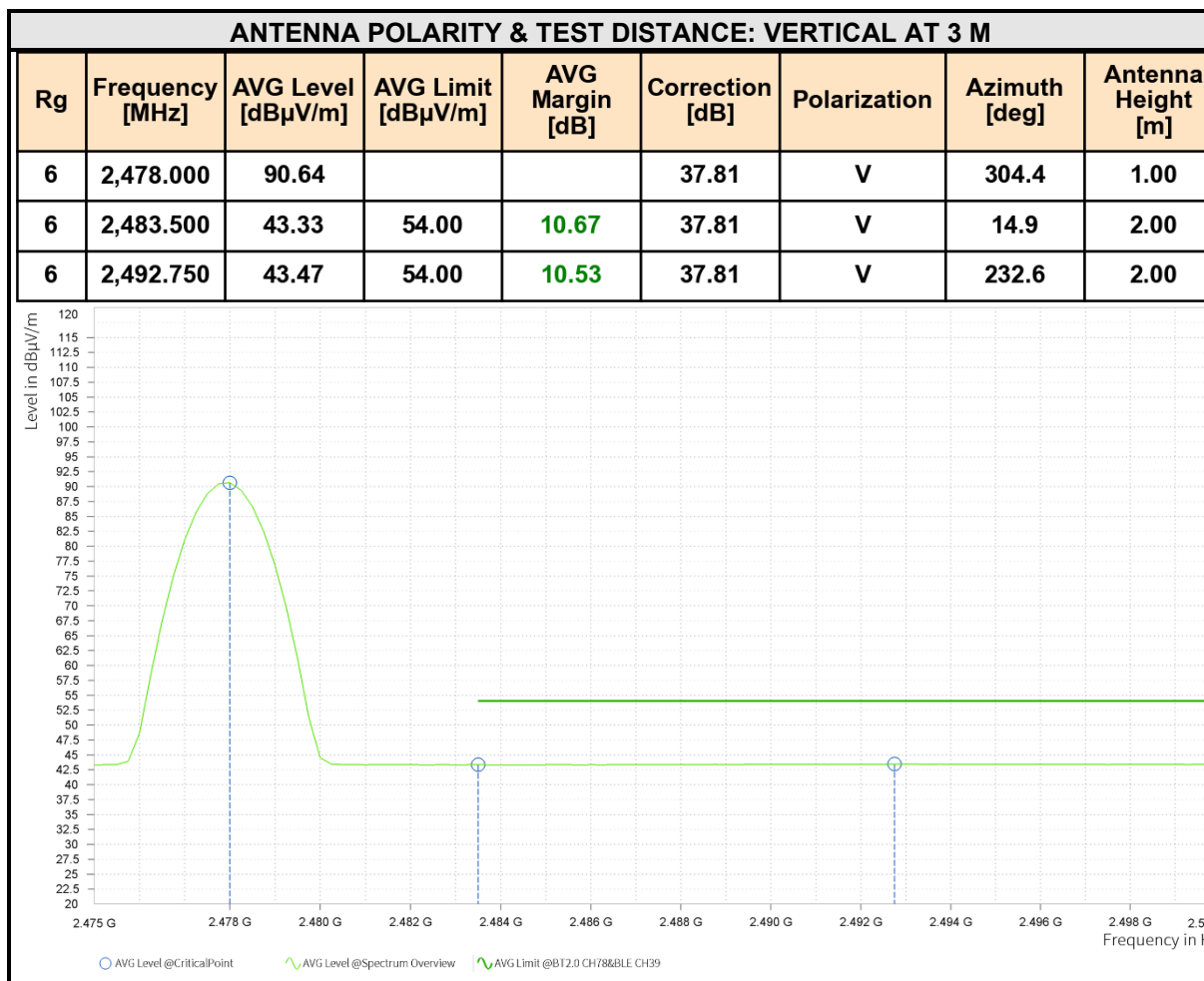
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor.
2. Margin value = Limit value–Emission level.
3. 2440MHz: Fundamental frequency.









REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamplifier Factor
2. Margin value = Limit value–Emission level.
3. 2478MHz: Fundamental frequency.

Test Report No.: RF260401B001

3.3 6 dB BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum 6dB Bandwidth Measurement is 0.5 MHz.

3.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Wireless communication integrated tester	Rohde&Schwarz	CMW500	166205	2025/6/30	2026/6/29
MXA Signal Analyzer	KEYSIGHT	N9020B	MY60112669	2025/8/27	2026/8/26
WiFi 7GHz Band Extender	Tonscend	TS-WF7U2	806WF7U003305251003	2025/1/17	2026/1/16
RF Control Unit	Tonscend	JS0806-2	806JS2X020201251002	2025/1/17	2026/1/16
PSG Analog Signal Generator	Agilent	E8257D	MY51111397	2025/7/01	2026/6/30
MXG Vector Signal Generator	KEYSIGHT	N5182B	MY61250150	2025/1/15	2026/1/14
DC Power Supply	AGILENT	HMP2020	100598	2025/7/01	2026/6/30
10dB attenuator	JFW INDUSTRIES INC	50HF-010-SMA	50HF-010-SMA-1	2025/6/30	2026/6/29
10dB attenuator	JFW INDUSTRIES INC	50HF-010-SMA	50HF-010-SMA-2	2025/6/30	2026/6/29
hygrothermograph	Anymetrers	----	TH101B	2025/7/22	2026/7/21
Temperature Box	zhongkemeiqi	MA22040172	MQ-DTH50F-2	2025/7/01	2026/6/30
power divider	WOKEN	71688	204-003180-01	2025/6/30	2026/6/29

NOTE:

1. The calibration interval of the above test instruments is 12/ 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in RF Oven room.

3.3.3 TEST PROCEDURE

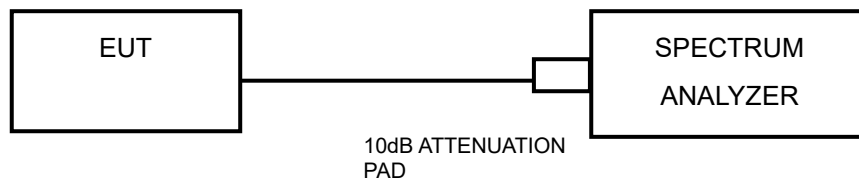
In accordance with ANSI C63.10-2020 11.8.1 Option 1:

- a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100kHz.
- b) Set the VBW $\geq [3 \times \text{RBW}]$.
- c) Detector = peak.
- d) Trace mode = max-hold.
- e) Sweep = No faster than coupled (auto) time.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB downamplitude” value, then it shall be as close as possible to this value.

3.3.4 DEVIATION FROM TEST STANDARD

No deviation.

3.3.5 TEST SETUP



3.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

3.3.7 TEST RESULTS

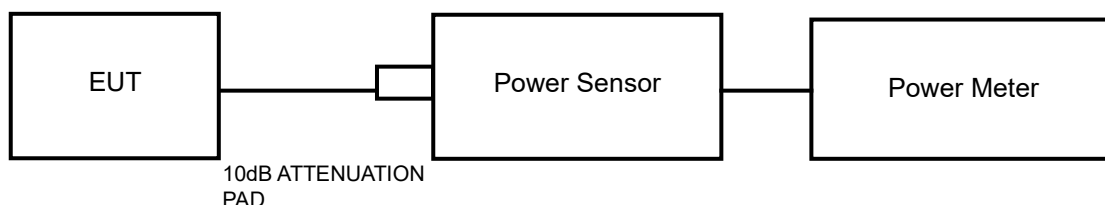
Please Refer to Appendix Of this test report..

3.4 CONDUCTED OUTPUT POWER

3.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm)

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.4.4 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



Test Report No.: RF260401B001

3.4.7 TEST RESULTS

3.4.7.1 MAXIMUM PEAK OUTPUT POWER

Please Refer to Appendix Of this test report..



Test Report No.: RF260401B001

3.4.7.2 AVERAGE OUTPUT POWER (FOR REFERENCE)

The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

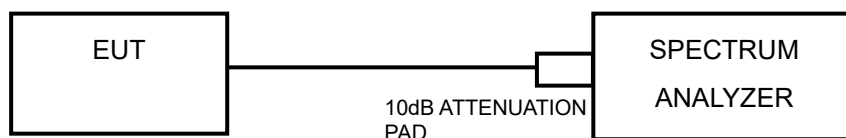
Please Refer to Appendix Of this test report..

3.5 POWER SPECTRAL DENSITY MEASUREMENT

3.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm/3KHz.

3.5.2 TEST SETUP



3.5.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.5.4 TEST PROCEDURE

1. Set the span > 1.5 times the DTS bandwidth
2. Set the RBW = 3 kHz, VBW $\geq 3 \times$ RBW, Detector = peak.
3. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

3.5.5 DEVIATION FROM TEST STANDARD

No deviation.

3.5.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



Test Report No.: RF260401B001

3.5.7 TEST RESULTS

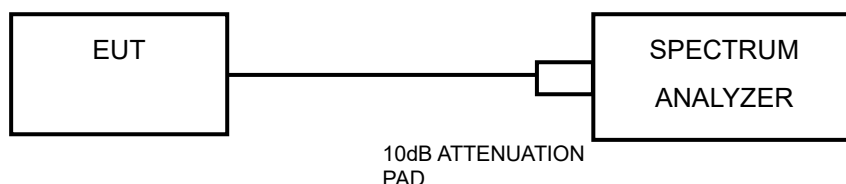
Please Refer to Appendix Of this test report..

3.6 OUT OF BAND EMISSION MEASUREMENT

3.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

3.6.2 TEST SETUP



3.6.3 TEST INSTRUMENTS

Refer to section 3.3.2 to get information of above instrument.

3.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

3.6.5 DEVIATION FROM TEST STANDARD

No deviation.

3.6.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

3.6.7 TEST RESULTS

The spectrum plots are attached on the following images. D1 line indicates the highest level. D2 line indicates the 20dB offset below D1. It shows compliance to the requirement.

Please Refer to Appendix Of this test report..

3.7 ANTENNA REQUIREMENTS

3.7.1 STANDARD APPLICABLE

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.7.2 ANTENNA CONNECTED CONSTRUCTION

An embedded-in antenna design is used.

3.7.3 ANTENNA GAIN

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit and PSD limit.

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

6 APPENDIX :BLE

DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.676	2401.628	2402.304	0.5	PASS
BLE_1M	Ant1	2440	0.688	2439.628	2440.316	0.5	PASS
BLE_1M	Ant1	2480	0.692	2479.620	2480.312	0.5	PASS
BLE_2M	Ant1	2404	1.172	2403.376	2404.548	0.5	PASS
BLE_2M	Ant1	2440	1.100	2439.412	2440.512	0.5	PASS
BLE_2M	Ant1	2478	1.160	2477.376	2478.536	0.5	PASS

Test Graphs

